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AMIGA

THE MAGAZINE FOR A500, A500+, A600 & A1200 OWNERS

WORKBENCH
STEP-BY-STEP GUIDE

OUTSTANDING END THOSE INCOMPATIBILITY BLUES

ISS 52 LOW-REQUIRED

AMIGA

RELOKICK1.3

Relokick 1.3 is a powerful utility that can help you manage your Amiga's hard disk space. It can move files from one disk to another, and it can also help you find and delete duplicate files.



FLASHBACK

Flashback is a powerful utility that can help you manage your Amiga's hard disk space. It can move files from one disk to another, and it can also help you find and delete duplicate files.



NO DISK ATTACHED?

ASK YOUR NEWSAGENT

ISS 53 HIGH-REQ. HIGH-REQ. COMPUTER

AMIGA

SUPERFROG

Superfrog is a powerful utility that can help you manage your Amiga's hard disk space. It can move files from one disk to another, and it can also help you find and delete duplicate files.



NO DISK ATTACHED?

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BEYOND DPAINT

FOUR NEW ART PACKAGES WITH
REAL GRAPHICS POWERMEMORY
UPGRADE
OFFER

WIN!

AN A1200 IN OUR
BRILLIANT KID PIX
COMPETITION

PAGESETTER



MAESTRO



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• THE EXCLUSIVE REVIEW OF THE AMIGA'S TOP PROGRAMMING TOOL • LEARNING 2 • BAKER
• BATTERING SHOOT 'EM UP ACTION • BARK'S TALK CONSTRUCTION KIT • NOTEBOOK • THIRSTY NIGHT
2 TIPS • D-DAY • CD AMIGA TIPS LINK • DETAILS INSIDE • BRIAN BARKSDOWN • REVOLUTION
SOFTWARE'S BLENDED & STILL LIT WORK IN PROGRESS • 32-PAGE AMIGA WORKSHOP • F12 QUEST



AMIGA CONTENTS



99 BEYOND DEBATE

Microsoft Armitage point packages) and people inevitably assume you mean Deluxe Paint. But with the release of the A1200 and the AGA chipset, has Electronic Arts' golden age finally come to a close? Is it enough for a modern point package just to be able to use the new screen modes, or is breaking the HMD output barrier going to demand the sacrifice of some more sacred cows?

We look at the next generation of art packages – both those which are available now and those which may come to pass – and try to get to the bottom of what makes a point package more than just a tool and more like a new creative experience. Three of those blunders and one into the future on page 22.



1.17 AMICA WORKSHOP

If you're interested in the more serious side of the Amiga, then this is the place for you. Each month our team of experts detail how to get the most out of your machine and the many and varied software packages that exist to help you do just that. This month we've introduced a new beginner's guide to the Workbench, penned by our own technical expert, Ian Brookfield. Also, there's the next instalment of the (D)raft and C programming tutorials, if that isn't enough there's the usual plethora of colourful columns dedicated to: *Amiga enthusiasts everywhere.*

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OFF THE CUFF

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month's 1700 coverings, but what you probably haven't realized is just how much it really is, in one fell swoop, you can slash those incontinence bills by topping your Aetna that it's an old 1.1 machine. Now, instead of a failure rate of between 60-80% in old machines, you'll be identical with a 100% success rate. Now is it cheap? I'm in this month's conversation, which is why I'm not a fan.

Do we envision that there's any one tool that does all? Autodesk's excellent new graphics package, *AutoCAD*, does a great deal in the 2D realm, so what you create you can also import it's all linked into a 3-dimensional on page 160, where you can see a third view. *AutoCAD* is the tool of educational confidence. So what are you waiting for? Get *AutoCAD*.

This month's lead feature takes a look at the vast genre of point-and-click adventures, including a first glimpse of Digital Creative's *Mirabelle* program which looks set to begin its *Debut* Point on the top of the pile. Also on hand is a specially extended game review, our new test *Amiga Workshop* page and an excellent memory upgrade article (which is new too).

What you definitely won't find in the fifth installment of our ongoing *Builder* magazine, *Response* is this part of the mix that seems overwhelming, so much so that we're taking a breather for a couple of months to evaluate all our suggestions and will be back with a new, improved formula beginning in our May issue. Watch out for it.

In the meantime, enjoy the rest of the map. There's something to learn for everyone, from the artist who is the expert on the subject. Can you spot more

1990s. The highly competitive market has driven the industry to focus on high-end, high-margin products. The market is expected to continue to grow, driven by the increasing demand for high-end, high-margin products. The market is expected to continue to grow, driven by the increasing demand for high-end, high-margin products.

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[illegible]

ABC



GET SERIOUS

PRODUCTIVITY REVIEWS PRODUCTIVITY REVIEWS

There's no delay this month as our team of expert reviewers tear apart the current list of Amiga productivity packages. Gold Disk's new DTP package, *PageSetter*® comes under the hammer, followed closely by *Art Expression* from Softlogic. Tony Horgan takes us into another 16-bit sampler, *Maestro*, and we draw pretty pictures with an incredible children's art program, *Kid Pix*.

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Can Art Expression really help you draw the bugs? This feature unveils on page 95.



PageSetter® comes under scrutiny on page 95. Can it do both cheap and good?



SCREEN SCENE

GAME REVIEWS GAME REVIEWS GAME REVIEWS

We've travelled far and wide to cover the best in Amiga games this month. Don't want to Hull to look at *Resolution's* new adventure, *Resonant A Steel Day*, whilst Jon was in Cambridgehire to speak to Oms Del about *Gosh*? We've also given you a lexicon of reviews from an exclusive look at *A-Train* to the super's new *Maestro*, Walker. In between, there's *Starzoids*, the best 'em up from Mindscape, *Q-Day* from US-Go!, and *Sleepwalker*, *Cosmo's Red Nose* platformer.

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60 TROLLS

65 SLEEPWALKER



Pagebreak and Little Designers team up to reveal the plotting and art in the sophisticated Walker. Review starts on page 48.



Can Sleepwalker transform Resonant A Steel into the best of the adventure? Page 34.

COVERDISKS

March is a month for madness and we've caught the bug. If it's possible to cram more onto two disks we don't know how. *Felafel* games, a hardware compatibility utility and a whole 'n' lot package are all on either.

DISK 82

This month's top notch utility is an amazing program which will save all new owners hours of frustration. Simply running the utility loads your machine into thinking it's an old 1.3 Amiga, so you can run all that old software over on a new A500 or A1200. Over 80% of the software which would normally cause an A1200 to make noisy noises and spit your disks out will now run happily. Amazing!

In a break with tradition we've also put a game demo on the first disk. And what a demo! It is, *Imaginer* a game that looks like a classic cartoon and is immensely playable - imagine no more 'look here it is, *Flashback* is the stunning follow-up to *Another World*. Finally, for all those poor individuals who've caught something nasty, the cure has arrived in the form of the latest update of *Virus Checker*.



DISK 83

For you decoration this month our second disk contains a demo of Team 17's new platformer - *Superfrog*. Guide the frog-like super hero around the deadly castle, avoiding the nasties and collecting as many coins as you can. You'll be amazed that a frog can fly, well almost, but he can jump a long way. We're sure that this will be a smash and we think you will be too after playing this exclusive level. In a special deal with Electronic Arts we've also crammed on a fun new art program for kids, called *Kid Pix*. It might be aimed at kids but it's great fun for adults, too. If you can't quite get to grips with *DPaint* you can still create a nifty bit of art with this one. And if you think your work is something special why not enter it into our special *Kid Pix* compo. Details on page 132.



LIONHEART

THE GRAPHICS ARE TOP-NOTCH WITH SOME GREAT SPRITES AND PARALAX SCROLLING, BUT IT IS THE ATTENTION TO DETAIL AND THE AMOUNT OF THOUGHT THAT HAS OBVIOUSLY GONE INTO IT THAT BRINGS IT TO THE TOP OF THE PILE. - STEVE MCNALLY, AMIGA ACTION

VISUALLY & TECHNICALLY LIONHEART LEAVES ALL OTHER AMIGA AND CONSOLE PLATFORM GAMES BEHIND, I'M AFRAID YOU'RE GOING TO HAVE TO BUY THIS ONE. - MARK RAMSRAW

INTO THE LION'S DEN — MARCH 1ST



PHILIP M. LEE

One of the hottest new topics to emerge over the last 12 months must be ex-teams. **Dapper Dawg**, founded in May, 1993, by Freddie Liguori and Andrew Sturges, the development house has already scored two major hits in the form of *Pinkish Dreams* and *Pinkish Journeys*, two of the best pitbulls alive on the Amiga. Currently, the team are working on no less than six new Amiga games. We'll have full previews in later issues, but for now here's a quick overview on what's ahead:

DOWN OF THE ROBOTS



from. Featuring three large tracks of multi-directional sound for up action coupled with two big-bass drives and great rhyms, this is one game which could save steel bands 10's. Expected to be finished in a September launch, see *10* (above) for more info.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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REMARK: Don't be too hard on the sailors, but it's only a working title for the 370-diskette package now that First Software's game has been released. There's not a lot to see of this one at present, it's not even on the drawing board as yet. It'll be a similar tale to *Pine of the Sea* and *Phantom's Secret Search*.

REVIEW ARTICLE



2000年10月

It seems as if Friends and Americans have "been" it well and truly in their sights as they're also working on a lead "in" us. Whether it'll prove to be to the standards of Andy Weaver we'll have to wait and see, but the game will be based on the old mythology - which means lots of things which you consider that (again) Weaver's members are all based in America. This is another mythological bit as, obviously, America have just released their cheat from under the stone.

MAIN FUNCTION



and Professor Robert
Kendall and I have been able to do this for ourselves

PHYSICAL ILLUSIONS

Yes, if that's happened, didn't it? After the success of the first two games, here's the inevitable expert's report. We're told this one will also make it into theaters, but whether or not it'll become a commercial hit is still undecided. I don't know.

And that's it. Where are you are they going to find the time to do anything at all? Married, but if they're both as good as their own business partners, well, that's not a lot to look forward to.

MIDI SURVIVAL GUIDE

Here's a breath of fresh air for anyone confused about MIDI. Written by MIDI expert, the Learned Architectural Editor of both Music Technology and Music & Studio Recording magazines, it takes a no-tech look at the world of electronic music, without a hint of math or complex MIDI theory discussion. Featuring tips on buying second-hand equipment, using patchers, time and money issues, transferring songs between sequencers, and getting the best out of the General MIDI standard, it's aimed at both the beginner and the seasoned professional. For more information, contact PC Publications on 0233 770860.

BIT MOVIE 93

Computer animation heads should get themselves over to Italy for the Computer Art Festival film Movie '93. It's taking place in Ravenna, Italy, from the 8th-12th of April '93.

Computer-generated animations and stills will be on show from around the world, and live-compositions will be run, one for Pixar-based animations, the other for sequences recorded on video, the results to be decided by votes from the visitors. Last year, the conventional animation won 5000 points, and this year's event promises to be even bigger.



NEW EPSON LASER

A new-line printer has just arrived from Epson. The EP4, 6200 is a small format printer 160 dpi dot, as opposed with a built in 160 sheet multi-media feeder, capable of handling envelopes, labels and a variety of paper sizes. It's equipped with a single ribbon imaging cartridge, and can accept data from up to three sources at the same time. Default language emulation is PCILS, but Postscript and HPGL, language cards are available. The EP4, 6200 retails at \$2500. For further info, contact Epson on (242) 874-4400.



US GOLD COME OUT FIGHTING

PGI's data accelerated the design process, started even before the Chinese period, helped by most manufacturers who were in Italy at a fixed system (not August 1980), the software house managed a complete 3D job and it took time to make, leaving the several companies. (Costs: getting it done was within the 10 to 15 percent of sales.)

to become computer-oriented, things games accounted for 60% of all sales. When cartridge games were added into the figures, the things still held its own with a share that was respectable: 33.4 percent of sales, beaten only by Toys. One of the interesting trends in video is that, so far, only one thing has been a flop: a game called *Tron*.

2001 - THE COIN-OP

With *Star Wars* only months away from release (look for it in Development soon), men, rebuffed our stall-like wars, that *Star Wars* is being from the film (*Star Wars* is also set to star in his own *Star Wars* game, *Star Wars: The Force Unleashed*), have snatched up the rights to the *Star Wars* license and are busy putting the finishing touches on the game. *Star Wars* will be it this summer.

A1200 CONFUSION

A lot of 1980s jitters seemed to have had a spell of trouble with last month's crossover. Problems mainly seem to occur due to some type of memory corruption occurring, and the inevitable problem of not following the instructions. It is important to turn the machine off for 10-20 seconds to make sure that there is nothing at all in memory before booting off your Watchdog.

In general compatibility problems with the A1200 can be solved by using the fallback modes on the boot-up screen or by running the Flatdisk utility on the `INSTALL.DISK`.

MARCAM UPDATE 8802
GEN DCK

Microsoft has suggested their B2C profile to include a core affiliate list, the FMI said. The B2C-with-B2B efforts also features two sales models: "Keynote 1" and "Keynote 2." These allow users control a transparent screen, and also those that require no screen. Existing leads allow you to find target sales prospects in online, trade or local or take up from leads. Contact Microsoft Software Distribution at 800.445.7800.

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COVERDISK 52

On this month's first disk, we've managed to pack over two disk loads of stuff for you. Thanks to an exclusive tie-in with Ghost Rider, we've got the complete solution to incompatibility blues, as well as a fabulous playable level of Delphine's Flashback, and the very latest Virus Checker update!



YOUR QUICKSTART GUIDE TO LOADING DISK 52

To use your coverdisk, first switch off your computer! This will clear any nasty viruses or other corruption that you may have had in memory. Leave the machine off for at least 10 seconds (counting slowly) before turning on. Wait for the Workbench prompt to appear, and then insert the disk into the internal drive. The drive light will come on and, after a few seconds, a familiar looking icon will appear.



1 Double-click on the CoverDisk icon using the left mouse button. It may take a few seconds before the desktop displays.



2 The first screen has a Green Double-click on this and another window will appear, with two more icons inside. One of these is the Virus Checker. To use it, just double-click on its icon. The icon will display the history and instructions for Virus Checker.



3 The other two icons are the GUI and extending systems. To use these first two icons click on them. Double-click on the icon and follow the instructions. The disk you inserted (which does not need to be formatted first) will become a new, readable disk with the next event programs loaded on it. Please refer to the instructions before to find out how to use the individual programs.

RELOKICK

End backwards compatibility problems with this fantastic utility. Just because you upgraded to a better machine doesn't mean you have to sell your old software.

Save over \$1,000 by loading with this essential Relokick 2.3 package you need.



If you're one of the very lucky people who own an A1000, or even an A800, A4000, A500+, or any other Workbench 2.x machine, then you are bound to come across some compatibility problems. It's not amusing to find that a large proportion of software won't work on your ultimate dream machine, especially if you have just spent a vast proportion of your savings purchasing the bloody thing!

At Computer Consultants, quoting 50-60% and magazines claiming anywhere between 40% and 80% compatibility, it can only affect your purchasing judgment the wrong way. As always, Old Amiga comes to the rescue with a novel (if not a little bit paid) to the arguments before they've had a

chance to get off the ground - Relokick.

Relokick is an alternative Kickstart disk that boots the Workbench on the host machine into thinking it's an old Workbench 1.3 machine, increasing compatibility considerably. All you need to do is first unplug the program (use a keyboard reset). Then Kickstart Guide to Loading Disk 50's, switch off your machine, stick the disk in the internal drive and switch on. After a few seconds of loading you'll be greeted with the old style hard start-up screen rather than the Amiga Workbench prompt you are used to, and you're away! It really is as simple as that.

The new Workbench will be resident in your machine's memory until the machine is actually switched off, so you can soft reset and still be in 1.3 mode. The utility does take up a bit of memory, so beware that some 640 K, 1 MB-only software may still cause problems. In the office we have discovered this utility to be a major relief in the light against unreliable software. We tested it on an A1200 and found that many previously incompatible packages were given a new lease of life.



COVERDISK 53

On the second of our two crammed coverdisks, not only do you get a complete playable level of Team 17's brilliant platform game *Superfrog*, but we also give you a usable demo of Broderbund's *Kid Pix*, with which you could win yourself an A1200 or a cool collection of *Carmen Sandiego* titles!

YOUR QUICKSTART GUIDE TO LOADING DISK 53

To use your coverdisk, first switch off your computer! This will clear any messy viruses or other corruption that you may have had in memory. Leave the machine off for at least 10 seconds (counting slowly) before turning on. Wait for the Workbench prompt to appear, and then insert the disk into the internal drive. The drive light will come on and, after a few seconds, a familiar looking loon will appear.



1 Double-click on the *Superfrog* icon using the left mouse button. A window will open with two pictures in focus.



2 Click on the picture of *Superfrog* to load the game.



3 Click on the picture of *Kid Pix* to load the game. If you want to save your pictures from a disk that needs before you start, please refer to the instructions before to find out how to use the individual programs.

SUPERFROG

Up, up and away... Don your green tights, red cape, and webbed feet(!?) in Team 17's new platformer.

If you read last month's preview of Team 17's latest title, you know how loading at the mouth of the way back from the moonworks. It's true, what you have in your hand is a complete level from the soon-to-be smash-platform-game starring the lovable amphibian. This level is taken from the *Castle* segment in the game, a couple of levels from the start, so don't expect it to be easy, but do expect it to be fun!

As *Superfrog*, you have to reach the castle to get through each level before you can save the princess from the evil wizard. Team 17's truly decide on an aspect. At the start of the level you find yourself with no cash, and no special abilities to speak of - not so much *Superfrog*, just plain Frog. At the bottom right of the screen you'll see a small coin with a number on it. This is the number of coins you have to collect before the exit will open. The coins

can be found all over the level, some are just lying there waiting for you to pick them up, while others are in all sorts of tricky places, or guarded by some nasty-looking baddies.

The *Castle* is much like any other castle you could name. It has large bricks, swinging balls on chains, fire pits, spikes that come out of the floor and ceilings and is inhabited almost primarily by spiders and bats. But the nicest place to spend any time, but who said being a *Superfrog* was fun?

Doesn't your way from time to time drive



Here's the location of some of the secret rooms. To open the door, simply push against the wall.

time in our dream, and to get through them, you need to find the relevant switches. Each door is numbered, as is each level. All you have to do to open a door is walk into the switch, which will activate automatically.

One final thing to look out for here are the hidden rooms. By pushing against certain parts of walls, passages will open, invariably leading into treasure rooms which could have anything in them, from coins to 50 or so coins! So keep those eyes peeled!

TAKING CONTROL

Superfrog's joystick controls are as follows:



To jump a little higher than usual, simply fire by pulling down, and then wait up to spring. To jump even higher, hold the spring that is pressed the level. Jumping on these catapults you by about two and a half screens. I can't say why, except would want to jump any further.

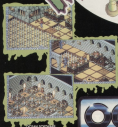
THEY LIVE AGAIN



Dracula, The Frankenstein Monster, The Mummy, The Wolf Man, The Bride of Frankenstein and The Creature from the Black Lagoon. Classic monsters from a movie age gone by. But more than that... creatures from our oldest dreams and our darkest nightmares. They have met and battled before, but now they are back. Back to form an unholy alliance to make our worst fears turn into a terrifying reality.

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KID PIX

Create a masterpiece with Broderbund's new art package, then use it to win yourself an A1200.

• RECTANGLE

The rectangle tool lets you draw a box on screen by selecting opposite corners in the same way you would draw a line. Click and hold one first corner, then drag to the opposite corner. There are three styles of rectangles available. The first is a hollow box — just two lines that define the shape without filling the picture. The second is a filled box, which draws a solid block in the currently selected colour. The last draws an outline of the box in the current colour, and fills it with white, leaving anything underneath. To draw a perfect square, hold down the shift key while drawing.

• OVAL

Oval works in exactly the same way as the box tool. To draw a perfect circle, hold down the shift key while drawing.

• WACKY BRUSH

There are three different sorts of wacky brush for you to play with. The first simulates a leaking pen drawing on blotting paper. Draw quickly, and you'll see long, thin, dark streaks slowly and large spots of ink will spill on your drawing. The second pen draws a zig-zag line, no matter how hard you try to draw a straight one. The third draws a series of small dots instead of a continuous line. For some interesting effects, hold down the shift key while drawing.

• ELECTRIC MIXER

The mixer allows you to add effects to your pictures to transform them from Boggle to Jackson Pollack. The first of the three options available inverts all the colours, turning a day scene into a night one. Click on the screen again to revert it back to normal. The second drops large splashes of paint onto the page at random positions. The longer you hold the button down, the more splashes you get. The third adds a checkerboard effect to the screen. Click again to revert back to the original drawing.

• PAINT POT

The paint pot is used to fill areas with colour or a selected pattern. To use, select the pattern and colour, and then click the pointer where you want the fill to go. Note: Make sure the area you're filling is enclosed, because the fill won't stop until it reaches an obstruction, which could result in you filling the entire screen by accident.

• ERASERS

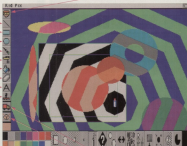
There are used, not surprisingly, to wipe the screen. There are four sizes and shapes available to you, to wipe away those tricky corners. Or, if you would rather take the picture and start again, select the delete option and click on the screen to blow the whole picture away. This is the most fun of the eraser options, even if the exploding image does give you a headache if you look at it for too long.

• LINE

The line tool automatically draws a straight line between two points on the page. Click and hold the mouse button at the point where you want the line to start, and then drag the pointer to the point where you want the line to end, releasing the button to place the line. Different widths and shades are selected in the same way as the Wacky Pencil.

• WACKY PENCIL

Clicking on this option puts you in freestyle draw mode. Drawing colour is selected by clicking on one of the available colours at the bottom left of the screen, and the width and shade of pen is selected from the strip at the bottom right. If you want to use a round brush instead of the square one available, then click on the small box on the extreme right of the strip. Use the left mouse button to draw.



• TEXT

The first three letters of this text are included for you to pick-up and paste. The letters can be any colour, and by holding down the shift button, you can paste the letters down at double the size.

• RUBBER STAMP

The rubber stamp lets you use clip art instead of drawing from scratch, and we've got three different stamps for you to use, which are picked up and dropped in the same way as the letters. Similarly, holding down the shift key places the stamps at double the height and width. The pots available are a cowboy, a whale and a seated robot — very cute!

• MOVING TRUCK

The moving truck lets you shift areas of the screen about. When selected, draw a box around the area you want to cut or copy, and then go to the Edit menu at the top of the screen. Selecting either Cut or Copy puts the area into a memory buffer, and selecting Paste turns the mouse pointer into the cut-paste, which can then be stamped down on the screen.

• UNDO

The undo option lets you go back to before the last action. If you draw a line you then decide you don't want, or accidentally erase an important part of the picture, clicking on this whistles the mistake. Clicking again returns the mistake.

HOW TO USE KID PIX

If you haven't already noticed from the review this month, Kid Pix is a superb new art package aimed exclusively at the younger Amiga user. Rather than cram it with all the usual technical features found in so many art packages, Broderbund have channelled this one with fun options and features, and ones that produce astonishingly attractive effects. On this disk, we have a completely usable demo, with some features disabled, but enough left to let you see the sort of things it's capable of.

Once you've had a run-down and had a play around with it, you'll be ready to enter our competition to win an A1200 or one of three sets of Clonnes Santiago games, kindly donated by Electronic Arts, UK distributor for all Broderbund software. See pages 102 and 103 for more details.

Upon loading you are greeted with the main screen. Here, all functions are selected and operated.

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Beyond



DPaint

There will always be a DPaint wherever you may go – but will it continue to hold on to its position as the world's favourite paint package, or has the competition finally caught up?

If any one company in the Amiga market can honestly offer "game opening words, yet mighty and deeper" it is Electronic Arts. Not only did they create the Allegri's standard art package, but they also created the whole concept behind the Interchange File Formats, ensuring that there were standard file formats for all applications.

Yes, for nearly seven years now, the Amiga has been the first choice for taking graphics work, and for all those years there has been only one art package. Deluxe Paint is stamped all over the Amiga.

But no king has ever lived forever. No dynasty or empire has yet lasted through all the changes of time. Is it time now that DPaint should have its mantle quietly snatched away? With the introduction of the new AGA chips and the extra screen modes available the time has never been better for someone to rip in and grab as much of the new market as possible. It's like a wild new continent lying, beckoning, waiting to be savagely exploited. It's a chance that some people are not going to let pass their by.

CONTENDERS AND PRETENDERS

The opportunity to challenge DPaint has come with the introduction of the Art 200 to these shores. Because of the enhanced screen modes now available, Amiga art packages will all have to be updated to take advantage of the full range of colours allowed. Since DPaint's essentially number one in a field of one, it is the only one which is perhaps starting at a bit of a disadvantage – anybody else does get a share of the new pie will be at EA's expense.

When packages are new, these pretenders to the crown? Well, at the moment only three have emerged. Firstly, and most obviously, there is DPaint II AGA, a term of two, the twin of DPaint often. But is there more to it than just the addition of a few new colour modes, and more to the point, does there need to be to keep it ahead of the competition?

Well, there is a black horse contender, Renaissance Paintwork (RenaP). Starting from scratch they've got nothing to lose, but they do

seem to have tested RPaint (sic) rather more than vigour on their chief rival. It's not a matter which will lend them in the courts, but because many of the tools and features are so similar to those in Deluxe Paint, it is possible for old DPaint users to pick it up without ever having to glance in the direction of the manual.

Finally, at least for the moment, we have BitPicture, which has an impressive background in authors. Digital Creations (who gave the world OCTV), and a pretty spiffy ancestor in the form of OCTV Paint. Some of the authors worked on previous versions of Deluxe Paint and Deluxe PhotoShop, so they know what they are up against.

Image FX from GVP also supports the new chips, but although this does have some painting ability, it is really an image processing package and nothing more.

So DPaint they will be joined by others, but it is the first time someone that will sail out the door, ahead, and ahead from the boys, that's good. In the words of Gladys Moore, out on the streets, the fighting has begun.

Personal Paint

CleanTo? Never heard of them – but they could be on to a winner as the stakes heat up for an AGA replacement to Deluxe Paint.

Perhaps, trying to make it a bit on the money economics of *DPaint*, Personal Paint for *VPaint*, possibly has nevertheless come out of its age to make sure it is not taken to be a instant copy. The most obvious of these changes is, the last menu, which appears down the left hand side of the screen (which a lot of people would prefer having, because it's easier to use if you are right handed).

Consistency of the tools are identical but use, but they all have slightly different icons and they are arranged slightly differently. The one that is different is the 'copy' icon – *VPaint* (don't know that for sure). It does have an icon that *DPaint* doesn't have though, one for rotating the fill options.

THE BRUSH OFF

It is possible to have multiple brushes in *VPaint* and just one active and so you can keep up to nine selected at any one time. But then, as they are very important to the *VPaint* environment, so they are used for many functions, such as specifying the patterns etc., and not just for the usual cut and

paste operations.

Brushes are used and stored in the normal way, stored in *DPaint* users (anyway), but at any time they can be swapped simply by selecting the number in the list on the tool bar.

Brushes can, of course, be used and loaded and painted between multiple windows. Unfortunately when setting up a stratigraphic screen, it does not necessarily take on the 'Paint' function of the current screen with regards to resolution, palette or size. This is a major drawback because it does not allow you to fit screen your custom brushes between a set of guidelines quite easily, all have been provided, but the same lack of psychological visual resolution.

MODES

When it comes to painting, you start begin to miss the special *DPaint* modes. Mono, or standard computer, is still there, and so is replace which (with the background colour as options). Unfortunately there is no Fill, fill or colour option, with which some of the best effects can be created.

It is possible to do these effects, via a very complicated mode of using the image processing functions on the brushes, but this gets a bit tedious and also means you have to plan too much in advance – losing the immediacy of this of some of them, anyway.

PAINT DOES A PCE

In spite of LA's starting point in software, the Amiga does stand the ground for graphics, the screen is not too far from sophisticated features of computer art. Many primitive machines can a variety of different formats, like TIFF, PCT, Targa, etc.

Some research showed that the most popular format among all machines was GIF. Graphics Interchange Format, which was popularized by the CompuServe computer information service. The GIF format may be very popular – but not on the Amiga. *ADG's* Art Department will accept it, and so will PageMaker and Pro Page, but that's about it.

CONVOLUTIONS

Real image processing is done using convolution masks. If you were to do any kind mask, you will find that masks are those holes of numbers which have a certain number of rows and columns, can contain be multiplied together and have an inverse which is necessary to remember how to find.

It will not take you with your confidence to know that your graphics are being operated on by these many things too. Okay, well just imagine this point are doing it.

Each normally, the value for each point being by applying the chosen matrix or it will

be immediate neighbours (depending how big the matrix is). This is how colour value for each pixel is created.

Many other effects can be created in this way, including blur, sharpen, waves and so on. *VPaint* also has a variety of masks which make it a useful way to remember patterns, but using different weighting and averaging effects to make up with the real world.

You can enter and edit in many matrices of your own in *VPaint*. You can work out the formula for a particular effect, but it's much easier just to experiment until you get the effect you want.



A good drawing technique is to approximate in the process of any image processing tool. Blurring can actually make images look as if better, especially if you increase the resolution of a file and then apply the blurring.



When *VPaint* you can select a filter pattern for converting the image to a dither pattern. Various dithering of size available grey levels, but it may take a bit of experimenting to find which one is most effective for your image.



When really wants an image that's thin, naturally, but it's a good effect and is useful for manufacturing media illustrations or for other images to be displayed against, or a completely different background.



The use of a convolution filter, one which actually represents points in a matrix, is really necessary to say the least. It's quite handy when you want to blur off anything due to the with your image through.



There are a variety of functions which can be used to bring the edges in a picture. A sharp edge filter will give you a sharper image, but it's not the only way to do it. You can also use a variety of other filters to bring the edges in.



A good sharpening filter will make sure that all the edges in the picture. But also make it appear to be a more realistic image. It can be very useful when used in conjunction with other effects, though.

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LOOK AND FEEL

The chances of anyone buying legal action over copyright infringement due to a look and feel action should be pretty slim. The idea is that to buy or make art is an intellectual act of copyright, but to copy the appearance of that art is not.

On the other hand, according to Commodore's style guide, all Amiga software should operate in more or less the same way (except... The fact there is any application should change to another program, the fact there are no icons should always be 'bad'). Following the rules, we end up with software which we, the users, find comfortable with.

The average experienced Amiga user should be able to have a fair idea of seeing any Amiga application without consulting the manual. This is a good thing, but it also means that all software coming along the same, which can be a bit boring when exactly what is used.

Although you may think that Personal Paint's being it a little, especially with most other packages being similar, it is probably about as far away from Paint as it could possibly get without violating its own set of rules. It is obvious the quality most made a point of making the Amiga Paint as they could make it possible.

Well, that was it, but PPaint also supports GIF and PCX files. In fact, all the demonstration images come in GIF format. This may not be a great boon to the home user who only ever distributes images to other Amiga owners, but it is quite useful to those who want to go further. It can also be handy to be able to import these file types, as a lot of clip-art is circulated in these formats. Perhaps though a TIFF loader would have been more useful than the PCX one. It didn't get around a few barriers. Although Adobe's Photoshop works it can import Amiga PPMs, it certainly can't import them all. Even though the information in a 256-colour image is stored in the same way, the colourmap header is bigger and the compression is rather primitive leading system. Some PC applications have some problems (most from the PC version of Ozone Paint).

PROCESSING POWER

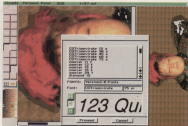
Image processing used to be the domain of expensive applications, such as Personal Art Department and even the excellent Picomedia which was given away on our coverdisk (specially we still have some November issues left). Until you're now who stocks fast. Now, with PPaint, it has become an integral part of the graphics package.

HAMMING IT

One of the major innovations in original Amiga was the discovery of HAMming, that is, a coordinate table where the table images from a character set are indexed according to graphics. Because that is the first time that can be addressed by the screen registers. So, although you're a maximum of two to the power of six, or 64 colours, most more than. It still can't be indexed, but it can't really afford any way of storing the colour data. The 16 colour registers store line colour values, and the pixel information remains a distance from the previous colour, hence the term look and feel. There are some problems with this mode. It takes up a lot of memory of previous line, so animations in this mode will be quite slow, and it also means the screen is in a transition mode, but it does give you 256 colours, which is effectively a 15 bit colour resolution.

The new resolution can display several HAMs, but thanks to restrictions in the display there are now 16 colour registers. This means that images can be constructed with up to 160,000 colours - and what's more they can be done at high resolution and without the bloating effects which were often a problem in original HAM screens.

Some people may say that this new mode isn't to be used. They are wrong. There are plenty of it to do, but they are slow. Even at 1 megabyte RAM, but there may be ways of animating more effectively in the future. In the meantime you have a genuine 16 bit colour image which is better than TV in terms of resolution.



Paint couldn't be Personal Paint's way and thought was instead of just giving the full-screen, it also lets the user available and obviously they are available in it. The previous version was only able to paint 16-bit to the 64 bit.

Surely the whole idea about image processing is to enhance or convert data you have received from another source, in order to make it better (although thousands of IT students will now be doing a variable impression of a Thermodynamics lecture and start going on about entropy values of information). Well, there's that as well, but the really fundamental use of image processing, in our own terms, the purpose of its existence is simply this, it's excellent for making about with.

Artists may well use the processing features logically towards an end, but to most people it's very much a question of luck it and use.

BUT WHERE?

Probably the most interesting thing about PPaint are the things that it lacks. There is no

animation facility for a start. Obviously you can still animate images by having them all one by one and bringing them together using a different package, but then there aren't very many packages which can handle AMI animations. It also means that you may not be the potential tools for more animating and perspective moving that make the whole process of animation that much more to be.

The most glaring omission however is the lack of HAM mode. The old HAM isn't much of a loss, but failing to support the HAM mode, which is just as much a feature of the Amiga chipset as the 256-colour mode. If the package included animation facilities there may be an excuse for leaving out a screen mode which is cumbersome, but PPaint does not have that excuse.

DPaint IV-AGA

It's back, and this time it's brought its extended screen modes. But is it enough to hold on to the throne?

Well, we've already covered DPaint's AGA (more known as DPaint) in its previous issue (and it was an official release from Electronic Arts, thanks, although some other magazines (and I don't seem to believe how fast we are at getting the news on the street). So it would be pointless to start on about the amazing features once again, I'm sure that everybody has a copy of one of the older versions of DPaint or has at least seen one running, so we will assume a basic knowledge of that software. We will pick out and discuss the important features though, to enable a better comparison with the other software.

MODE MANIA

The new version of DPaint has some machines and, of course, permits the extended

AGA palettes and screen modes. As well as supporting the standard 256 colour palette it also includes both HAM modes, which will now work in any screen resolution (thanks to the AGA hardware, not specifically because of EA). The HAM mode is particularly useful, as the quality is possibly a bit better than the highest colour resolution you could expect to meet using domestic equipment. DPaint will also animate in the new HAM modes, although it will do so quite slowly (although it is possible, and with an accelerated machine it may not be so cumbersome).

SENSITIVITY

The new version of DPaint supports the TriMedia pressure sensitive graphics tablet. There are plenty of TriMedia tablets on the market, and they are all completely transparent to the actual software they are used in conjunction with - they don't need the custom support of the application.

A pressure sensitive tablet is different though, as it measures not only the x and y co-ordinates of the pen, but also how hard you are pressing on it. This data is sent to the application which can then



The professional file in AmigaPaint can be saved in all the different ways, but there is only really one trick: make sure the entire image is inside the limits of the file region. Otherwise, it will not save.



The file interface is not too far from the one in the other AmigaPaints, except for the pattern selection. There is no need to go into a separate menu option.



The old AmigaPaints were fairly easy to understand, but AmigaPaint is calculated to make the entire file, and then some, easy to use. There are no pattern color options either.



The range of different file types in AmigaPaint is impressive - if you have Amiga 486, you can probably do it.

AmigaPaint's file interface is not too far from the one in the other AmigaPaints, except for the pattern selection. There is no need to go into a separate menu option.



AmigaPaint uses this information to calculate a number of things. Firstly, it can be used for brush size effects, changing the thickness of lines as you draw them - a useful effect when trying to simulate oil painting.

Also, the pressure can be used to alter the transparency function, which essentially acts as an anti-aliasing drawing mode. The pressure of the pen alters the percentage transparency of the brush, allowing effects such as water-colours to be simulated very effectively.

APPITEM

Support for the AppItem and AppMenu features means that an icon will now appear on the workbench screen to show that AmigaPaint is running. To



KEYPAD CAPERS

If you run on Amiga, you will only get to the file in the AmigaPaint menu when you press the 'F' key. You have just made a keyboard mistake. There is no 'F' key on the Amiga.

Unfortunately, AmigaPaint uses the 'F' key to alter the color when using properties. Even so, though, the new version of AmigaPaint has a keypad menu, so you can use the keypad keys in conjunction with AmigaPaint to access all the software features.

load any file in AmigaPaint, all that has to be done is to drag the file icon to the top of the AmigaPaint icon. You can also switch from AmigaPaint to AmigaPaint by double-clicking on the icon.

This is part of a shift to programming philosophy which doesn't seem to actually enhance the software. In any way, but just enough, the way it is used. The advantage of AmigaPaint is that if every program used it, you would be able to use it in a way that was not possible at any one time and by looking at the workbench screen. The obvious disadvantage is that if you have a lot of programs running, each one will get a little bit slower - even worse, if you enjoy the look of being able to use the 'Leave Out' option you may end up with two icons on the screen for the same application.

AmigaPaint itself seems to be AmigaPaint's first step, when AmigaPaint starts to be a bit better.

Brilliance

What do you get when a leading Amiga graphics developer decides all of a sudden to release a Paint package? The answer could be Brilliance.

Brilliance isn't actually shipping yet, but you can get a good idea of how it will work from the demo artwork and by looking at the 3D Paint package (developed for DCTV) from which it will no doubt derive much in terms of design experience. DCTV has been very popular around the world as a sort of graphics replacement system for the Amiga, allowing it to work in a pseudo-3D bit mode.

Obviously this experience has been fairly

drawn upon, because Brilliance will work internally to a 32-bit resolution. This means that any actions performed on the image will be calculated to a 32-bit image depth (values being converted to a 16-bit image for display). Theoretically, the extra transition should make quite a lot of difference to the speed of actually painting the image, but there is no evidence yet to suggest that this is the case. It also means that you can import and export 32-bit images very easily, or even originate them totally from within Brilliance (though you won't be able to see exactly what you are doing).

The most immediate difference between Brilliance and AmigaPaint is the way the menu and tools are arranged. By placing them in a separate screen which is overlaid on the image at the bottom, they are not subject to variations in color as the palette is modified. How many times have you



The obvious difference with Brilliance is that the birds and other animals appear on a separate screen, overlaid at the bottom of the image. All computer-image animals and characters are actually on their own separate display to prevent too much

ANIMATION

A large percentage of people who use DPaint inevitably end up creating animations in it. (Most images are still very well, but animation is taking a little better toll.)



Only a few scenes of video editing are employed. This allowed the designers to look back through the slides from the previous frames and better evaluate the new positions of objects. This is completed in DPaint and other packages by right-clicking, which apply a timestamp to the previous image and allow a certain length for "slide" through. But that isn't the entire animation tools in software. Professionals can be expected and difficult even find a few sophisticated tools available which allow multiple positioning of frames in sequential frames.

Brilliance has no mode to understand from here because it is not just a matter of a right-click. One in and out functions can be performed from specific ones, so all of all the controls are becoming more like a video production facility rather than a traditional animation tool.

passed at a DPaint screen and tried to remember exactly where objects in the 3D tool were? Now you will always be able to reach out which colour is which.

Being on a separate screen also means that it can appear and disappear almost at will. Those who have used HAM mode in DPaint will appreciate just how much of a nice thing this is. This is a much better way to organize the menu, but wouldn't it be nice if someone brought out a paint package where the tool bar was in a separate window, and you could move it around the screen to anywhere you like?

The morphing function in Brilliance, while nowhere near as good as those in professional morphing products such as Adobe's MorphPlus, is certainly a good lot better than DPaint's. Instead of calculating everything on a time basis, the pixels in Brilliance will be moved on a pixelated basis in two dimensions, which will bring an end to those funny little before/after bits.

The interesting thing is that Brilliance seems to be extremely memory efficient, which would be helped by the fact that it is operating on a virtual 24-bit buffer. Although we have not tested it, Brilliance will apparently work in as little as 512K of memory, depending on screen sizes.

MODES

The 486 display incorporated in the 486 and 486X machines is capable of supporting more screen modes than the old 386 models of the Amiga.

Because of a fundamental change in the way colours are displayed, all of the colour resolutions are available in all of the display modes. This rather means more than "productivity" rather redundant, unless you are using a monitor which can't display any of the comparable resolution screens.

Super-high-resolution resolution of 1280 pixels (or more with increased) and can be used as an enhanced or even full-screen display. The colour resolution now extends at up to eight bitplanes before it effectively stops (most power) at two from 1-256 colours with options for the 486 mode. All colours are shown from a palette of 15,720 colours, which gives 156 values for each of the red, green and blue values - there is one point in having a large palette than this. Available may have done a lot with the range of more shades of yellow/red, but it certainly wouldn't have done much better with a couple of thousand or more.

Brilliance mode is still supported, but it is worth noting that the 64-colour mode is now only 64 colours, not just 25 colours and their counterparts.



With 16 colours, the best currently available using all of the Amiga.



With only 256 colours, you can still reasonably close to a decent image.



With 64 colours, you may see a picture to improve in look a little, but stilling wouldn't be too much.



The old design was only capable of displaying high-resolution images in 25 colours. Probably not a lot!

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SCREEN SCENE

The most definitive games review column of any Amiga magazine.

So much can happen in a month, just look at all the amazing Amiga games we've covered this issue. Here's the complete list of those that made it.

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WHEN TWO WORLDS WAR

IMPRESSIONS

Continuing their never ending series of strategic titles, Impressions will soon be unleashing When Two Worlds War onto our screens, and as you can see from the screenshot, it looks like it's going to be something special. The year is 2327, and as the title suggests, we have broken out between two planets, yours and a hostile neighbouring one. You have to take charge of the planet's resources and emerge victorious, or be a slave to a lunatic boss

with warring tentacles for the rest of your life.

Impressions have spent a lot of time working on the user interface and they reckon it's their best yet. The combat takes place in three zones - your planet, the hostile planet and the space in between, which is a lot of ground to watch for just one person. So, you learn to choose between making all the individual commands yourself, or you can work as a General, giving orders to the computer which then works out all the fiddly bits.

On the PC version, Impressions are working on voice control for the game. Let's hope they try to do the same with the Amiga version. More news when we have it.



IMPRESSIONS

ISHAR 2 SILMARILLS

Ishar was a brilliant game, and no mistaking Corgius' graphics, a superb plot and some extremely intricate game mechanics made it one of the best around. Now Silmarils have made numerous improvements and changes and come up with Ishar 2.1. Can't wait.

Rough has been defeated along with his Citadel of Evil, and Ishar is back to being a peaceful, happy and prosperous land. But there is more bad news on the horizon.

The antipalage of islands that surrounds Ishar is being taken over by a madman and his servants, who are supplying a mind control drug to the inhabitants of the island. Your aim is to stop him before he takes Ishar, and then the lands he has already claimed.

One of the first major changes between this and the original is the existence of the other islands. Instead of the one landscape, you can now travel between seven islands, covering all sorts of terrain from forest and grassland to castles, dungeons and mountains. The mountain landscapes have been cleverly coded to give a true indication of altitude, taking Ishar through a true dimension.

Everything about Ishar 2 has been created to be bigger and better than ever before. This playing area itself is three times larger than the original, and includes over 100,000 different locations as opposed to Ishar's 40,000. As you can view a location from four different angles, this means that the game has a staggering 400,000 different views!

The towns have been improved too, being made both larger and more varied. In Ishtar towns were full of identical buildings and each town had a shop and a tavern. In Ishtar 2 there are more trading opportunities, banks and various



other new options will be available to your party.

In terms of your party, there have been lots of improvements. Magic items will be plotted to mean that there are now more than 40 different new magic potions to create, so magic will play a far bigger part in this episode than the last. When putting your party together, you'll find over 30 new characters to recruit, unless of course you want to play with your party from the original game, in which case you can just load them in.

Where there are friends, however, there has to be enemies, and Ishar 2 will feature over 70 new enemies for you to pit your wits against. Things are going to be tough.



The controls are also being

totally overhauled. Tower icons and menus are being used, and for those who're using items using a point-and-click method. You will be given direct access to game management screens, and innovations without all that pointless messing about with menus and sub-menus. All this has been done to make Ishtar 2 easier to play - the less time you have to spend worrying about which icon to hit, the better, especially in the heat of battle. It sounds like it could even make the crowd away from Eye of the Beholder 2.

Ishar 2, at present, looks like it's going to take a whole lot of people by surprise. If you thought that Ishtar couldn't be beaten, then watch out for this one!

HIRED GUNS PSYGNOSIS

The next star to emerge from the Psygnosis/CMA Design studio looks like being this future hit adventure. The scenario places our mercenary



on a hostage rescue mission on a title backwater planet that goes by the name of Greynard. Set in 2793, when all money transactions are credit based and monitored by a central control, life as an outlaw is impossible.

Well, that's true for most, but not for Hired Guns. This super mercenary has gathered a group of friends together to carry out their missions for shadowy patrons who can pay him in previous missions. Part of Hired's group are assigned this rescue mission with a difference.

The difference being that the hostages are terrorists who are being held by a rival group. The authorities have washed their hands of the matter, so there's no real time to go through and no consequences for the mercenary's actions.

Unfortunately, things aren't as simple as they first appear, as there is something sinister going on at Greynard, and an incident both the past is about to make itself felt with a vengeance. Seems like everything's set for a great last-ten-up.

Viewed from the first person perspective, similar to most adventures like Eye of the Beholder 2, the screen is split up into four windows. Each one represents a mercenary's view and each can be independently controlled. So, you can either choose to play yourself or set up to three friends to join in at the same time. The game will feature an auto mapping option, masses of high-tech equipment and codes of items to find and puzzles to solve - who could ask for more?

The full game will allow you to choose from 12 characters and add their faces to look like whoever you want - even yourself. With over 1,700,000 of playing area, an all-round amazing and 1,000 of sound effects it's going to take quite some time to teach this one.

The demo we took a look at moved at a cracking pace. Faster than

any other 3D adventure/RPG we've ever seen, so things are shaping up fine. We'll bring you a full review soon.



BENEATH THE STEEL SKY

There's gonna be a Revolution, and Dan Slingsby will be first up against the wall when it comes. In the meantime, here's his sneak preview of Revolution Software's follow up to Lure of the Tempress.

After the success of *Lure of the Tempress* last year, Hall-based Revolution Software are aiming to tap the UK's once again with their follow up game, *Beneath The Steel Sky*. Taking on the likes of *LucasArts* and *Barnes* in the graphic adventure stakes isn't going to be easy, but Revolution are confident that their revamped virtual theatre system is more than up to the task. What's more, for added oomph, they've also signed up the artistic talents of comic book vet *Alan*. Dave Gibbons, artist and co-creator of the *Watchmen* graphic novel and countless other comics.

Set in the far future, *Beneath The Steel Sky* has a distinct *Blade Runner* feel to it, reflected in the towering metropolis where most of the action takes place. Imagine the *Jurassic* *Genie* *Genie* of *Mega City One* and you'll have a good idea of what the place looks like. The world is governed by five huge multi-national corporations, each of which have their own pri-

vate armies and planet-wide mining operations. Much of the world has been reduced to a polluted wasteland, with special military support units needed to protect the megacities from the ravages of the heavily polluted atmosphere. Few people survive in the wastelands, but those that do have banded together, forming small pockets of resistance in the face of world order.

REBEL, REBEL

Our hapless hero, Foster, lives in one of those rebel communities, until, one night, its citizens are annihilated by a search-and-destroy unit from the nearby city. Swearing revenge, Foster is taken prisoner and transported back to the metropolis for interrogation, but manages to escape when the transport plane crashes on one of the city's sky-line walkways. Foster quickly discovers that the city is run by a huge supercomputer known as LINC which determines the status of each citizen and what they

can and cannot do. The dogs of society are forced to live at the top of the city blocks where the air is most polluted, while those who are given 'tag' in the world can move 'deeper' to the most luxurious lower levels. It is here that the game begins with Foster being pursued by the city's police.

The game's background graphics went through several stages of production before they reached the computer screen. Dave Gibbons was drafted in to produce the initial sketches for the game's 30-bit locations and would fax over a set of roughs. These would then be evaluated to see if they were technically feasible or not and, once approved, had been scanned, Dave would provide the final sketch. Once a design had been approved, it was then passed on to Les Fack, a professional animator who worked on *Hyper Runer*, who would hand-paint each scene. These were then scanned in on an Apple Macintosh to produce a 24-bit

GENESIS OF A PICTURE

Transforming a rough sketch into a finished 16-colour screen is a lengthy process. Here's how it was done.



After a rough sketch, Dave Gibbons' drawings are better suited to the computer screen. Here's how it was done.



The sketch is then scanned into a hand-drawn computer image. Here's how it was done.



bridge. Kordell says, "I've been over the bridge, and I know it's the perfect atmosphere, the things I'm looking for, and even the things that are wrong. The game will begin next month, and I'm sure that everyone here will be looking forward to getting ready for the season, and we will, of course, be looking forward to the season, and we will be looking forward to the season."



House government
 Almost 100 years ago in
 government's elementary
 stages, it was said to be
 gathering form from
 nothing, although people
 have been using it since
 the first Middle Ages.
 And for the time the
 House seemed well
 serving public necessity
 and democratic freedom.
 Made for efficiency
 and speed, it is
 characterized by
 the efficient quality
 of its action or report
 and the ability to
 bring the whole
 House into line.

[illegible]

There's a collection of reports spanning issues from the game, from the title *Cyberpunk*. It's there in a book with two and three stars. It's a book that has and always had something more, more, more. It's a book that's a book.

image and are frequently converted over to the Anaglyph. Obviously, each image suffered a severe loss of detail during the conversion process. Because of the Anaglyph's limited palette and resolution, as in *Indiana Jones*, *Adam Tsewen*, would then have to spend several days "touching up" a screen in each frame, moving a question of lightening up the detail and correcting any pixel distortion that might have occurred. Though, as a large number of on-screen animations were also added at this stage to bring the whole thing to life, *Tsewen* could include animals pouring out of chimneys, light filtering across a "Voll screen", or a searchlight illuminating the sky. It's these touches that really help bring each screen to life and make well for the committed game.

VIRTUALLY THERE

The virtual Theater argues *Legend* to drive the first game has been significantly improved for its second outing. As Revolver's ML, Charles Cecil, explains: "The game develops in a more subtle manner to *Legend of the Temple*. Characters not only react to special chances, but also develop in



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The picture is then reviewed in and summarized across in the language there is in the following story:



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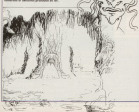


although a good friend has been programmed for the Amiga, as the two separate teams hope to meet halfway thus cutting down on the workload considerably. It's envisioned that the game will take up between 8 T-bits and support a second disk drive as well as being used this month. The Amiga's 50 column printer has been used well and there are going to be lots of sample screens and effects to give the game even more appeal.

As well as supporting 4800/4000 machines, Graham is also working on a special CDTV version which will include much more animation and, hopefully, more puzzles. We'll have a full review soon. *

PLANNING PERMISSION

Most of the game was completed a year long before any thing was designed on screen. Each level was carefully mapped and many hours went through the art and animation before the team were happy with the way each one looked. In fact, you'll have difficulty filling the pages with related to the game for a couple of family sized volumes! Here's just one of the hundreds of sketches produced for it.



B17

Flying Fortress



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BATTLETOADS

Are Mindscape ready to kick a turtle when it's down? John Mather looks at the latest amphibian wonders to appear on the Amiga.



Their name is Battletoad.

Too bad? Oh, sorry guys, but hasn't this idea been tried somewhere else? Like, maybe, three years ago? But remember,

here is a toothy, swamped arcade game which was an absolutely huge hit on the MSX when it first appeared, selling millions of copies worldwide. In fact, such is the demand for all things toad-like that the previous three games are set to star in their own spin-ups in the States and a cartoon series is also in the works. These guys are huge in the US and there's every likelihood that they'll do the same over here. Respect is due! And now, courtesy of American development team, Place, the original arcade romp is set to

appear on an Amiga near you this Easter. So what's it all about? Well, apparently, these young video game addicts got sucked into the game they've been playing and are banished into these seven fat fat battlesuits — 253, Rush and Ponce. Unfortunately, Ponce and a rather cute Princess get kidnapped by the evil Dark Queen (look at it up to the other two toads to help rescue them [pointy]).

Unfortunately, the Dark Queen has a huge army of slaves at her command, including Psycho Pigs, Mutant Pelicans, Robot Monks and the Satan.

Toadrap to name but a few, and they're none too pleased to see you. Yep, we're into two-player local 'em up action, so stand by your joystick for some serious mugging.

The gameplay is a mixture of gaming styles and varies from the last: one up action of the first level, through a real, polite riding sequence, to a Nintendo-style tower climb. Then there are other tasks to perform such as a rolling logs stage, where the idea is to keep your balance while avoiding the legions of snakes after your tail, and a vertically scrolling rope-swinging section. You might think such a mix-mash of styles wouldn't work, but it merely adds to the fun as you speed through the levels. Each level builds up some new challenge and some new skill to master, so there's never a chance to get bored with what's going on.

The Amiga version of Battletoads was originally set for release in September last year, but Mindscape are now aiming for an Easter release. The problem has been all the incidental animations and graphics that appear in the game. There are literally dozens of animations throughout the game and many only appear at certain points. Such is the potential earnings from Battletoads across all formats that the American developers, Place, are at pains to make sure everything is absolutely pixel perfect. This has meant leaving the team working on the game's 5-6 year full-time staff members as every level is checked for complete accuracy. They're also managed to cram in more than 100 frames of animation per character and included 10 contact-packed levels through which to travel.

It's all looking very healthy and we'll have a full review soon, so



The level two has you swinging into logs as you descend through a giant cat's stomach. Watch out for the cat's claws! (Aa, a warning, all kidding here. The cat's got no power over its time on the back of giant moving catfish to get to the top of the screen.)



Adventure anything can be used as a weapon in this game. Here, about to use a coconut! (Yes?)



BEHIND THE SCENES

- Title: Battletoads
- Publisher: Mindscape
- Developer: John Badner, Steve Lamy
- Programmer: John Badner, Andrew Fennelly
- Sound: Gary Jeff Jones
- Release date: March
- Price: £19.95

BEHIND THE SCENES

Right, and to show how and developer you are the Amiga can grab the opposition and save them from



BADNER & JONES



BADNER & JONES



BADNER & JONES



BADNER & JONES

GOAL!

What's in a name? Formerly appearing as Kick Off 3, Dino Dini's new soccer sim looks likely to take the terraces by storm. Jon Sloan has a sneak preview.

There is one type of game that is likely to split players into opposing camps: it's a football sim. Kick Off 2 and Sensible Soccer must require more potent views than a Liverpool vs. Everton derby. The current league leader is surely Sensi Soccer with its brilliant update — the 1995/96 season — which scored a massive 98% in December.

I was again, that's why my opinion? So, it was with a completely open and unbiased mind that I stepped in to Dino Dini's team to look at his latest challenger for the crown. In case you didn't know it, Dino Dini is the brains behind the brilliant Kick Off series of sims. Firstly to please his army of fans (Dino decided that the time was ripe for a new game).

The first thing to hit you about Goal! is the size of the pitch. Instead of the usual 100 yards, the new players weigh in at a daunting 20x10. While this may not be immediately apparent on our monitors here, it does make an enormous difference to the gameplay. For those of you with a more traditional outlook, the thought may be, it has also included the

standard sized players. And, if that isn't enough, you will be able to switch between the two sizes at the touch of a button or, better still, at a predetermined key point in the action.

Being a thoughtful and critical (Dino has taken note) of one of the major criticisms of the two earlier Kick Off titles — that of the gradual time-lagging. Despite the incredible depth of play in Kick Off 2, it was extremely difficult to control, especially for beginners, resulting in the ball shooting around the pitch like an out of control mad cat. It was a bit like football, but Goal! was a better option, says Dino. "The arrival of Goal! is to make it more accessible to the beginner. But because there is greater depth to the game it means that it is difficult to master." A walk I can testify to, being a complete game addict, as even I was able to pick up the controls after a few very small (but I did not know every match).

SPRINT AND TURN

Goal! is made easy in programming. Goal! was made to make it even more available than any other football game. It's all on the way to making this dream, as Goal! has some stunning new features, including player acceleration and deceleration, a turntable which allows the faster you are turning, and a special single-point-of-view control for players, the throw-in and corners. Perhaps best of all, the computer team will be even more intelligent and will try to use the ball from the back of a player rather than resorting to a sliding tackle. This was shown to good effect by Dino himself as he managed to hold another player off for quite some time before it got forced and tucked into a goal!

Goal! will split between 50-100 matches, each with 10 players. When you remember that each player will have four different set of eight statistics you can see how much work Dino has put into the game.



Goal! offers much greater manipulation of the ball. Players can determine the height, power and direction of an entire strike. It's also possible to use the ball as a weapon in a standard manner.

The player you control is visible from a wide view overhead. It looks like this during the action.



Another striking feature looks like being the pitch attention. It has been more or less accepted by now that a soccer sim should be topographical. Dino wants to have his own on his head by including a horizontally scrolling pitch. The best part about this is that, because of the TV aspect, you will be able to see more of the pitch on screen all day long.

DINO DOESN'T PLAY FOOTIE!

In a surprising admission, Dino Dini revealed that he doesn't actually play football or even support any particular team! I know it's hard to believe but Dino only programmed the original Kick Off because Proton asked him to do a football game.

Still, we can't hold that against him because it is his love to have and the game plays, and from what I've seen Goal! looks like being one of the best football games for some time. As Dino says, "I'm glad to programme now than when I started Kick Off, purely because I have had for more years of programming experience," and it shows.

In an exclusive deal, we've teamed up with Mega to bring you a fully playable demo of Goal! so that we can get our hands on it. The full game will be released soon and we'll bring you a full review then.

STAR PLAYER IN SHOCK MOVE

In an already hot market, an experienced fan that has been packed by previous players. This move will allow players to move between the game world as they would like to move between the game world. For an experienced fan that has been packed by previous players, this move will allow players to move between the game world as they would like to move between the game world. For an experienced fan that has been packed by previous players, this move will allow players to move between the game world as they would like to move between the game world.



Jonny Pearson, November 1995. A football fan at heart, Jonny Pearson has been a fan of the game since he was a child. He has been a fan of the game since he was a child. He has been a fan of the game since he was a child.

BEHIND THE SCENES

- The Goal! title may be signed in change
- Publisher: Mega
- Programming: Dino Dini
- Graphics: Design Studios
- Developer: Dino Dini
- Price: £10

BEHIND THE SCENES

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WATERBURY, CONNECTICUT, 1901-1902

TABLE 1

TABLE 1



HEY, ARE THERE ANYONE
WHOM YOU CAN CONTACT FOR
SUPPORT? (SPEAKING TO THE
MIL) (SPEAKING) I DECIDE THAT
MIL, AFTER RECENT THE SAME
THINGS OF VERY HEAVY, AND RECENT
ON BY SOME OF MILITARY FORCE
CAME FORWARD (and a couple of others who
happened to be around that meeting). A
DISCUSSION FROM THE SAULT OF
SEPTEMBER WILL GO DIRECT TO
COUNCIL ON 10

TAKE PART IN THE GREAT
 STEPHANER CHALLENGE. WHO
 WILL BE WALKING ALL THE WAY
 AROUND THE WORLD FROM
 NEW YORK TO LONDON IN THE
 NEXT YEAR? YOU MAY BE THE
 FIRST! JOIN THE GREAT
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 AND WALK YOUR WAY
 AROUND THE WORLD IN
 YOUR OWN WAY. IN
 YOUR OWN TIME. IN YOUR
 OWN WAY. IN YOUR OWN
 WAY. IN YOUR OWN WAY.



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D-DAY

The 6th of June 1944 was the day Hitler forgot to set his alarm clock. Tony Dillon wonders if he should have forked out for a wake up call.

If you're too young to remember Operation Overlord was one of the most important moments of World War 2. A single day - June 6th 1944 - of a brutal assault along the Normandy coast that the German armies were just not ready for. Consequently, D-Day became the day that the allied troops started to come home. Legend tells the story of how air pilot Adolf Hitler was being warned and retired to bed early, instructing his butler only to wake him if he had bad important news. Soon after midnight, Operation Overlord began, and the news reached Hitler's a short while later. The butler didn't wake the Führer, thinking the news was not important enough. That's where the tale ends, which is a shame because I would have loved to know what became of the butler.

THE STORY SO FAR...

D-Day tells the story of that day, and it is all intense and explosive, the direct successor to *Shogun* and that wonderful tank sim, despite that last being a non-simulated platformer reaching for the skydive line and time again. This new strategy sim from life's good looks set to follow that success story.

The four simulations within the game each involve some kind of bombardment attack on the enemy. You will be able to select to play all of them, or just concentrate in one or two, leaving the computer to take your place in the others, which it will do, basing its result on historic fact and a table of probabilities.

The first simulation is troop dropping. The aim here is to take a plane load of troops, and drop them on a designated drop zone. At the bottom of the screen are a bunch of icons, and your troops are shown as cute little guys with parachutes as the top of the screen. Yes, you guessed it, it's a Lemmings clone. As the wind blows the guys about, you have to aim each one so that he'll fall



in the infantry section you take control of a small group of soldiers and attempt to reach targets. Resources are limited and the men's skills may not always be appropriate for the job.

within the predefined area, while getting down as quickly and safely as possible and making sure he doesn't knock into any other troops.

There are two more parts to the subject of the second simulation, and this is actually devoted to *Shogun* AM. At the start of the mission you are given a three five to follow and a number of tanks. Using a map mode, you can program the tanks to drive to specified locations under computer control. Or you can take control of each tank manually, handling both the driver's and the gunner's post simultaneously.

Bombard Fields are next and consist of a rather simple flight simulation. You have to take part in a daring low-level attack against heavy installations. The simulation is carried out in a third person perspective, and missiles range from bombing simple installations such as bridges, to taking out enemy bases while under some heavy fire.

The last of the four simulations is the infantry engagement. This is a very low level, map view strategy game with only a handful of soldiers. As strategy you are given a directive, e.g. blow up the tanks on the map or destroy certain buildings.



like orders to soldiers in this section. Sometimes to do specific tasks or to find weapons of use location. This is the third simulation in the game.

SINK OR SWIM

You won't have to dive straight in at the deep end, thankfully. From the main menu, you will be able to select which of the 19 training missions to take part in (seven for each simulation), and at which skill level. A basic troop drop, for example, might consist of four troops being dropped in an empty area with no wind. A difficult tank manoeuvre would consist of three tanks guarding a bridge against 30 or so German Panther tanks.

The campaign level is run against a clock. Played over a complete map of the area, the computer sends you its and when trouble spots are reached. Here, you can choose whether or not to take part in that particular confrontation. To add to your database, the game will contain a complete database of all the companies currently on the map, including their numbers, weapons and overall strength. If the battle looks too tough for you, you can leave it up to the computer.

From what I've seen the presentation looks superb. Although the game carries a lot of information, it should be very easy to access. The control menu and game speed have had a lot of thought put into them. As for the sound, spot effects are going to be the order of the day rather than a full sounding track. D-Day could be an interesting collection of events, and one that may look very well indeed. Time will tell. We'll bring you a full review soon.

BEHIND THE SCENES

- Title D-DAY
- Publisher 2D Gold
- Developer Madman Games
- Programmers Christopher Parsons, Isabelle May, Philip T. Lewis
- Release Date February
- Price TBA

BEHIND THE SCENES





WA

DNA return to their shoot 'em up roots with their latest blaster. Our glorious leader and all-round psychopath, Dan Silingsby, kills maims and squashes everyone who gets in his way... but that's another story.

PROJECT WALKER AQ-9
STATUS: TOP SECRET
OBJECTIVE: ULTIMATE KILLING MACHINE

ENERGY (SHIELD): Walk is an extremely powerful, durable mutant of immense strength. Multi-directional laser beams warm while an extremely efficient engine.

WALK CONTROL (MOVES): Movement is extremely slow, but with precise control you can fly over obstacles and for quick escapes.

PROJECT WALKER (WALKER): Capable of moving at a constant pace, Walk is able to move at a constant pace, but is able to move at a constant pace.

WALK (WALK): Capable of moving at a constant pace, Walk is able to move at a constant pace, but is able to move at a constant pace.

WALK (WALK): Capable of moving at a constant pace, Walk is able to move at a constant pace, but is able to move at a constant pace.



Let's face it, good shoot 'em ups on the Amiga are a fairly rare sight. Activision's conversion of R-Type 2 was a competent enough blast, but moved at a snail's pace when the screen got too crowded. Then there was Galfin, which was fun while it lasted, but the difficulty level wasn't nearly tough enough. Only Team 17's Project X, with its snappy, snappy graphics and game-play that really cut the mustard in recent times, and then it was too suddenly difficult that I got fed up. You have progressed past level two even now! So it's encouraging to see no lesser talent than DMA, the people who brought you Lemmings, getting back in their roots and having a bash at coding a new blaster.

The result of their endeavours is Walker, a fast-paced shoot 'em up which puts you in control of a 30-ton human killing machine. Code-named the AQ-9, Looking like a cross between E.T. and a tank, the AQ-9 is the huge mechanical transporter seen in the future of the Job.

Its regularly moving target, like its hell master, it's capable of making you move faster than you think.

Inside, the lowering machine is capable of opening out its endless tunnel of death from its twin machine guns mounted beneath its surviving head. The tricky AQ-9 job involves some manoeuvres about the lowering machine attempting to destroy each other by travelling through time and space and each other's followers. Lowering time and the lower time continuum aside, it's not the most stunning excuse for a lot of blasting I've ever read, but does give some variety to the proceedings as you blast your way through four different time zones.

EXTERMINATE, EXTERMINATE

The aim of the game is simple: guide your Walker against various waves of horrendously swirling landscape blasting as much military hardware out of the skies as possible, while also taking care of the ground ground battalions, marine emplacements, tanks and other such obstacles. While not sounding very innovative, it's the pace of the action that makes the game such a winner — it just doesn't stop for a second. As soon

TOOLING UP

although you possess a powerful Walker assault vehicle, you start off with a real number of weapons and resources at their disposal. These include everything from basic downer weapons to heavy duty death rays that strike the ground with laser fire. There's also a small selection of the weapons on offer.

WALKER



As you've cleared one screen, you're right back in the thick of things at another legion of enemy sprites charge at you.

The Walker and the innovative control method are probably the game's most impressive features. More than 50 frames of animation have been used to depict the Walker, an impressive mechanical behemoth with two huge gun turrets mounted underneath its crawling head. The high-tech beast is controlled by a combination of mouse and keyboard controls, which might sound complicated but, in practice, they work a treat. Two keys control the back-and-forth movement of the Walker as it moves

all the while as you snap tightly onto a single pile of enemies, forever.



Take two more hits and your wall's energy slowly melts away. Hit back and watch the enemies shatter.

about the screen while the mouse controls an on-screen crosshair. A click on the left mouse button unleashes a volley of shots in the direction of the crosshair, while holding down the right button locks the targeting system on anything that's near at the time. This is a much-needed option, as manually tracking some of the faster-moving enemy sprites is damn near impossible.

It's not just a fire and forget type game, though, as the machine guns can overheat and close down. If you use them continuously, so when rapid bursts are the best way to make progress. There's also an energy level which decreases depending on the amount of enemy fire you soak up. The stats at maximum strength, but quickly taking a nosedive, so you can't just walk into the enemy and try and stamp them underneath your huge mechanical feet. It's best to try and keep your distance and pick off the enemy sprites as soon as they reach onto the screen.

FOUR-WAY FIRE

In all, there are four levels to complete, each made up of two stages.



These were to include a loading stage and then last into a Prince of Persia style runabout where you'd slouch from the Walker and pick up new ammo supplies and energy pods. Unfortunately, the latter elements of the game have been dropped in favour of scanning in more loading action, so the second stage of each level is just more of the same. Good though it is, it can get quite monotonous at times and the runabout stages would have helped break up the action quite nicely as well as presenting more of a tactical challenge.

Another downside is the lack of any kind of power-ups or add-on ornaments. It's a little boring

Excessive with weapons. Destroy while you can, as you go, ready or not! (A)



because whilst it you've got a lot of weapons, they're not very powerful. You can't get into the Prince of Persia style runabout where you'd slouch from the Walker and pick up new ammo supplies and energy pods.

endless supply of small arms fire but where are the triple-way fire, smart bombs, and hell on wheels? Merely slugging it out through each stage for a showdown with an end-of-level guardian gets a lot boring after a while, especially as the opposition possesses far greater firepower than your trumpped up pea-shooters. I'd also question the difficulty level in places, especially when the screen is flooded with airborne gliders - it's almost impossible not to sustain crippling damage under such an attack. Thankfully, you begin the game with four lives and each stage has a number of restart points, but even so it's a bit on the hard side.

Walker is a curious game in many respects, but the weird thing about the game is that it actually works better on a bog-standard 486 than it does on the Amiga. The faster processor of the latter machine makes everything move just a little too fast. The ground troops rush onto the screen at warp factor nine and the airborne vehicles swoop down onto the Walker like some sort of bird of prey. On the

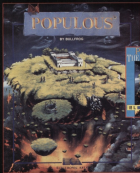


As in 486, there's a shooting transition to the next level. Keep going and you'll reach the end of the game, which is a bit of a let-down. The game is a bit of a let-down.



If the transition to the next level is a bit of a let-down, the game is a bit of a let-down. The game is a bit of a let-down.

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All aboard. Dan Slingby tries out the service in Maxis' new sim. Cold teas and state snacks will be available in the buffet car.

Contrary to popular belief, I am not a triathlete. Yes, I do go out on a longer flooded area, but I'm sometimes prone to spillover, and that doesn't mean I spend my weekends at Clearwater station thoroughly cobbling down engine numbers and fuming around public buses. Strange, then, that I should've so completely fallen for Wilson's latest release, an in-depth film management in California that's so detailed it even allows you to see the switching gears on the track and watch out a limitation for up to 20 processes and eight cores.

[illegible]

A-TRAIN



There's a legend that the development of these icons was an arbitrary shuffling of colors. Turns out it's almost identical to the RGB color model.

commercial districts. Pretty soon, major roads begin to appear, land prices soar and you're multiplying your odds for becoming a successful entrepreneur.

There are six different scenarios to choose from at the start of the game, and these range from building up a network from scratch to developing an existing one, to taking over the running of a failed network company and developing it around novel (patent) ideas. The scenarios lead to further details. To help you get the most out of *Trigra*, Matt Howe writes a huge 70-page manual which contains a handy walk-through guide. This details all the functions of the various icons that appear in the tool bar at the bottom of the screen as well as providing useful hints, tips and shortcuts.

DOWN INTO THE

Most of the main screen is covered from a three-quarter top-down perspective of the immediate area, which is nicely detailed. To scroll across the terrain, you can either use the arrow keys or click on the sides of the screen with the mouse button. At the bottom of the screen is a small toolbar containing all the commands that are necessary to get started. These include icons for the placing and lifting of new tanks, new chaff tanks, scheduling attacks and objectives, building stations, appointments, facilities, and more (omitted).

tracks. Clicking on any of these links up a new window from where you can copy and paste the address. For example, clicking on the track laying icon brings up a new window which asks whether you wish to lay new tracks or remove existing lines. The cost of each new piece of rail is also shown – this can vary depending on the cost of laying the track and which type of rail you're getting (see table on p. 1).

[illegible]

Track laying is still complicated at first, and it's difficult to choose curved lines. It's better to have some a series of differently shaped pieces that could have been positioned on screen instead of the right-angled pieces on rails, but with a little practice, you'll enjoy the task before you know it. The first thing you've got to do since you've started a new game is to get a track up and running and start naming some parts. A closed track with two stations at either end is a good way to begin. Substituting a suspension bridge



“The aim of the game is to transform the local countryside (open fields, the forests, mountains) into an urban area.”

run up and down the hill, position some residential units at one end of the track and some offices at the other, and you'll be in business. The most effective departure times for a train are 8am in a residential district and 5pm in a commercial area. It's all these things that must work—as a train.

It's not quite as easy as it sounds, though. Buildings remodeling, stringing-thoughts, as you'll need to purchase a freight train to bring in fresh supplies or build a factory to manufacture them. Once you've got a sufficient quantity, it's time to start to invest in some real estate and develop your residential and commercial districts. It's best to buy up the land nearest each of your stations at the start of the game as the prices will rise and skyrocket later on and can provide a good source of rental or stock income.

[†] *Thymus* spp. and *Salvia* spp. are common.

TOTAL PAGE REVISIONS



is problem. Taxes are due at the end of the financial year, and if you haven't got the cash to pay them, then it's often badly game-over. You're faced with a 50% tax on any profit you make, a whopping high figure, so most surplus carry-over assets before the year's end, as these are taxed at a mere 5% of their value. Get into debt at the bank and you'll receive a foreclosure notice, again putting a premature end to the *Succession*.

NET CONNECTION

When your investment is successful, it's time to spend up additional money. Connecting lines can be built at angles of 45° to existing lines, but you'll then find you're forced to pay more attention to scheduling trains if you're to avoid a pile up. The best type of line to develop is a loop of track, known as the Southern, as it still fits. My setting up several stations around the loop, it's possible to have four or five trains running simultaneously. The railroad will still run at a pace, so if you buy it up at the start, you'll make a financial return.

Compared to last week's Railroad Tycoon are inevitable responses, and it might be said that Microprose's offering is much better than the game. Mainly due to refer to their idea on software type or simulations rather than games, and this is reflected in 4-Point's open-ended approach. Although there's a vague goal of reaching a profit level of \$60 million, it's possible to keep on playing indefinitely. No fixed scenario—in a way, though, so there's no competition, no prizes, and no underhand dealing—all in comparison to last week's offering.

As a simulation, it does only turn off hard disk, so it takes only a few minutes to install. It seems to load a bit slow and fine-tuned, and there's too much effort

since between the two except that the Progs version is more detailed. A word of warning, though, the high-resolution needs 1MB of RAM (plus 1/2MB of Chip RAM) so make sure your system is able to cope. Overall, I preferred the low-resolution, mainly because they were less cluttered and more clearly defined. The sound is terrible, some wobbly Hammond Organ type music, and electronic beeps and whines.

Overall, *A Train* is an enjoyable game, guaranteed to keep you entertained for weeks if not months. If you can't wait until *Sim City 2000* is released at the end of the year, then this is a fix.

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SCENARIOS AND STRATEGIES

There are six different scenarios to choose from at the start of the game. Each has varying complexity, features and are in different stages of development.

NEW TOWN

London as per railroad time and a station. There are only small workshops and coaches. The "mainline" is in the suburbs of a big city off the map, and its passenger needs increasing. It lacks everything such as department stores and movie buildings, and quickly needs a profitable railway line to link it to the city.



PLATE 1

There is already a large population. The problem here is how to efficiently use the left column line at the top of the strip and how to transport the materials in developing the key areas of the bath.



REPORT DRIVE LOG #1217

This used to be the world's longest tunnel. There's an airport nearby, and just ignore it. It's the old railway in the stone and the modern air storage area underneath for future needs. Baked the line and lay 40000, after making some money, set up a double-line railway. Saved the city around the mountain and taken. You'll probably need a little time for drawing the city's perimeter - for it's worth with one more mile.



MULTI-CITY CONNECTION

leadership is in decline. There's no such thing as a free lunch, and it's time to believe your way out of a recession. Concentrate on industrial development and free residential centers. Cancel the national cities and villages by railroad to stimulate growth. Focus on expanding types of business but keep in mind that a lot of Mississippi development may bring a lot of slaves to the local business community.



RECONSTRUCTION

Germany has a job to do as an advanced stage, but progress will stop if the transportation network keeps falling developments. The ball line is falling to make money and must be reconstructed. Your spending can twice your income, and fall of ball is a big concern. However, economical factors and growing new roads if possible. My apartment blocks and other houses are new, modern and safe.



BOUNTOWN
BOONVILLE

Widespread protests have been met with the city is already on a large scale. The industrial sector is beginning to shut down away from the center. Traffic jams have started to appear. We're going to have to reconsider the transport system in order to keep up with the pace of change.



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TRANSARCTICA

Even in the future
trains never seem
to run on time.
Mark Patterson
buys a ticket and
settles down for a
long wait.

Taking the lead from such PC gamers as *James H. Horowitz* (see below) and *Will*, would you believe it, a futuristic train simulation

The path has been turned into a frozen wasteland by a failed experiment aimed at countering global warming. What's left of mankind resides in small communities heated by railways controlled by the nefarious Viking Union. After teaching some books explaining how to reverse the effects of the experiment, you're saved as your hard-earned cash to buy a train of your own and set out trying to implement this plan.

The Flying Lotus aren't really enthusiastic about your attempts at deconstructing the Earth, as the end of the global winter will spell the end of their monopoly on the rail lines. They're not to stop you any way they can, which includes sending heavily armed and attack teams out after you.

Warning: Trading securities for any profitless
 before you sell them may make you liable
 for earnings taxes and loss of capital loss
 for investment losses.

USE THE JUNCTION

Trading forms a large part of the game's strategy. Items ranging from petrol to manure are all negotiable commodities, and it's up to you to find out who needs what.

Traders are divided into two main categories, trading goods and manufacturing plants. The latter is where you buy some cargoes for your team. These include prison cars for transporting criminals, and mobile labs for forensics. Trading goods are where you make your main Commodities. These different values in different towns and its down to the player to work out where cargoes are worth the most. Should you pay a town's entire stock of an item, you're going to have to wait a fair while for them to produce more of it. This prevents you depending on one quality trade state.

TRAIN-TO-KILLERS

If the Viking Liners are consistently on your tail, and if they catch up with your train a battle ensues. Your train is defended by a small security force, which has no dependence on changing the strategy, but isn't very effective on their own. To help you out you'll need to buy a machine gun or missile car. These allow you to attack an enemy, which is usually similarly armed, at a distance. Any car that takes too many hits is destroyed. If you're engine is supported then you're safe out of the game.

These groups's membership, together with the other groups, was responsible for their activities.



Earning money - Lipstick is a form of coin efforts, apart from being used to buy things, can be showed into the first should you run out of the world: here, find lipstick, mouth, others.

anthracite. Naturally, turning out of anthracite doesn't make well for your bank, even so.

One integral, yet tedious, and critically important part of the game is starting the engine. Coal needs to be regularly shovelled into the furnace to keep the boiler going. To do this you click on the engine room screen, and click on one of the two ladders standing either side of the furnace, who then shovel the coal in. This process has to be repeated so often that a soon becomes immediately leaving Windows you in a hard-core train-think like our beloved *Call of Duty*. Even the joyless value of watching someone shovel coal in is computer game realism at its best, as all

WILF COMINATION

This is an extremely unusual game combining elements from *Mahjong*, *Katzenjammer* and *Clash II* to produce something that's altogether weird. Despite its apparent complexity, it doesn't take long to get to grips with: most of the features, and once you've done that, *Parasector* doesn't offer much more. This is one for serious brain stimulation.

Rated: 4/10

Rope knots can range from efficient and beautiful to messy and dangerous, so choose and practice your knot carefully, your life will thank you.

Abstract: This paper discusses various ethical issues that arise in the context of the use of information technology in the workplace. It examines the impact of technology on privacy, security, and the overall well-being of employees. The author argues that organizations have a responsibility to ensure that technology is used in a way that respects individual rights and promotes a positive work environment.

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- **low salt intake, low sodium variety**

OVERALL 69%



Yer Right In Me! You
Up Now Yer Bawlers
Of A Backward Horman

RAGNAROK

If you go slightly damp at the thought of taking a bishop your probably quite perverse. Tony Horgan looks for a cure.



Nearly's famous for many things: a large fishing industry, Vikings, mountains, fjords, tourists in sky-high gondolas, the list is endless... and then of course, there's that old favourite - King's Table, rapidly overlooking snakes and ladders to be the world's most popular game, or so it says here.

If the words rock bishop to knight ring true, have you got your finger for a quick session of chess, then you have my condolences. Sympathies also, do you ever fancy winning a bit different? Something with the challenge of chess, but with a turning twist? Ragnarok could be just the ticket... and then again...

Ragnarok King's Table.

Ragnarok is a kind of poor man's Battle Chess. You can play it against a friend, or against the computer in either a single game, or a full tournament. The rules are like a cross between chess and draughts, with extra rules added in an attempt to make it up a bit.

One player starts with all of his pieces amassed around the middle of the board, while the other has his pieces lined up along the edges. The idea is for the first player to get his central piece to one of the corner squares. The second player has to stop his opponent doing so by capturing the central piece. To do this the second player has to surround the central piece on all four sides with his own pieces. In the process, both players can take each other's lesser pieces by sandwiching them between two or more of their own. Get that?

When a piece is taken, you get a Battle Chess-style animation of the characters fighting it out. Unlike BC, this doesn't actually take place down on the board. Instead you get a close-up scene overlaid on the

board, with some of the most lurid animation I've seen for quite a while. Most of the characters have gothic features, knocking off their opponents with underhand stabs or magical blasts. The graphics pick up occasionally, with the appearance of corners of the computer players.

It all feels a bit over-the-top. With all the pieces crammed in the middle of the board, there's not much scope for varied strategies. If you're the one trying to get to a corner square, it's not so bad, but if you're the defending player, there's nothing much to spur you on. Failing between the complexity of chess and the simplicity of draughts, it could provide a short-term diversion for hard-core strategists.

RAGNAROK £34.99

AGE 12+ SING. £34.99 2PL £39.99
SING. £34.99 2PL £39.99
MAGNETIC P.O. BOX 740, CANNITON,
DORSET, TA20 8RN, TEL: 01305
29999.

BY PUZZ DATE: BUT NOW
NAME: STRATEGY
TYPE: MAGNETIC
CONTROLS: MOUSE AND JOYSTICK
NUMBER OF DISKS: 1
NUMBER OF PLAYERS: 2-3
HARD DISK REQUIRED: YES
MEMORY: YES

GRAPHICS: 4
SOUND: 4
PLAYABILITY: 4

A scappily executed chess variant, let down by poor quality animation.

OVERALL 50%

CARNAGE

Live it all the way back to the mid-eighties and you'll find a very popular arcade game by the name of Super Space. This mag-view, multi-player racing game was a massive hit both in the arcades and on home machines, thanks to its American theme. Since then we've had Superstars, Grand Prix Simulator, Jupiter Run and now we have Carnage. The latest in a long line of very small cars with totally rotational control.

Carnage features 18 tracks, and up to five players can race each in sequence as part of a league-based championship. Any less than four human players and the computer takes the remaining wheels. Three laps of each of these intricate circuits have to be completed within the time limit, and if applicable, before any of the computer drivers can finish the race.

It's hardly any racing, but the controls are a little unpredictable. The acceleration, for example, is unusual. Sometimes you can shoot from a standing start without using turbo charge or nitro or whatever it's called.



called in this incarnation, where at other times you can't get going without a push. This isn't a bad variation, but with Grand Prix Simulator it always did you needed to look at this?

Tony Dillon
Sceptre £7.99

48%

INTERNATIONAL TENNIS

I've never really had too much hope for a decent tennis game on the Amiga. In fact, the only really playable tennis game I can remember was Match Point on the Spectrum, about nine years ago. I had just about given up hope completely when my hands laid International Tennis, and what a brilliant version of the sport it is.

There are remarkably enough options to keep anyone happy. There are three different types of court for you to play on, lawn, clay or asphalt, all viewed from one end of the pitch in forced perspective, and you can play singles, doubles, male or female. In fact, the only option that seems to be missing is the keyboard controls for the ball bop!

The controls for the game are very simple, far simpler than most. The right-way control moves the player around the court, and the fire button swings the racket. Holding one of the joystick directions while swinging adds different effects, such as more power or spin, but it's done logically, i.e. holding left causes the ball to spin to the left.

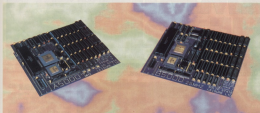
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LEMMINGS THE TRIBES

Suicide is painless, or so they say, so we gave Dan a revolver and a copy of *Lemmings 2*, shut him in the games cupboard and awaited the results. Unfortunately, he emerged unscathed.

THE DIRTY DOZEN

There are 12 tribes in all, each offering a selection of different skills and playing styles. Here's all 12 of 'em, with a brief description of what to expect in each world.

REACH

**This tool are certified hard
that they usually fall over.
Expendable of female style
obstacles to overcome.**



HIGHLAND


 This might not look too bad, but they're wearing water shoes! (and I don't think I'd really like to know whether they're all going to be in the water... —*Shirley Armstrong*)



1000



Blowing, talk about a belly buster! This pose has more bumps and dips than Billington council's main events. Experts in martial arts techniques go to the top of the hill and sprint them down again, in my past I find the ground old Duke of York like home.



HISTORICAL

The best defense is the old adage. Hold your pennings above and swing them in through the air. The best real idea is to position the shaver so that the pennings fly straight into the nearest wall. (Gee?)



100



Underground cities are the order of the day here, with lots of underground rivers through which to guide you like an explorer.



The four practice levels allow you to tailor nearly all of the new learning skills. The additional three indicate that they're only likely to come to attention. The first goal is to identify a focus level, so you can focus attention on your focus content.

Multi-creaming games are a lot like the ground these days. It's no longer the soft, warm fluffiness it once was. Instead, it's been replaced by a tried-and-true money-making formula and shrouded an endless supply of plot-former games or modified hackintoshes.

Once in a while, though, a company will decide to take a risk and throwing in a little imagination. That was the case with the original *Legend of Zelda*. Progress released something that was almost pure and unadorned, yet it was better. Since then, the game's appeared on almost every other format imaginable, from the PC, MegaDrive and CD-i. In the SNES, *Claymancer* even the discussion (and now, the game's tried, actually). And even the game's creators, *MMMA*, are set to do it all over again with the release of *Legend of Zelda II: The Adventure of Link*, offering another look at the addictive and highly profitable formula.

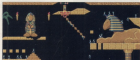
Legend of Zelda

If you've never played the game, here's the basic idea: you control an army of microbial bunnies who like nothing better than to jump off the nearest precipice to their doom. It's up to you, therefore, to guide them across an obstacle field where the safety of their home, if not as easy as all that, though, is like a chicken kept away from hapless blunts as well as

I HAVE BEEN...

On a superficial plane, nothing much has changed. The larger sprites that were perceived have failed to materialize, so you're left with the tiny mesh for your space-farmings; we've all come to know and expect it. The control system is exactly the same, too, as are the incredibly sad songs which accompany each level. But then, it just wouldn't be the same without them.

But this is all just first impressions stuff. Dig a little deeper and the changes become much more obvious. For starters, instead of just right ability to choose from there are now a whopping 50+ of 'em! Fifty of these can be accessed during the four practice sessions, to help you get used to the huge range of new options at your disposal. These range from simple skills such as the original climbs and dippers to the new climbs, balconies and palmers. There's even a Superstep option which translates your quickly little spinning into a superhigh with pulsed air stream and the ability to fly after the cursor all over the screen. This is great fun, especially when you load one of them into a wall and watch him spin to the ground with some spinning sound he heard. There are also some skills, such as a pulse-wave, that let you jump into walls easily and a bonus of making difficult transitions one of the easiest into a Terminator Devil who can be blown across the screen, wiping out everything in the footpath.



On one of the little islands, we are plunging to their death. Luckily, some one has come to jump-start the little boat, and we are able to escape. The boat is now in motion, and we are able to escape the little island and its peril.

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Do you want the complete cheat to Street Fighter 2? How about a nice, shiny A1200? Still not satisfied? Well, call our tips line for the best tips to the hottest games. Don't delay.

Have you ever been stuck on the third level of a game, and searched frantically through every back issue you have, and still not been able to find that all important hint or cheat. Have you just rushed home from your local games store to find that you can't get off the first screen of "Space Zombies"? Do you wish you had a weekly update of all the hottest cheats around, and didn't have to rely on a single screen of teletext for your news? Do you feel that your A500 just doesn't cut the mustard any more, but can't afford to upgrade your machine? Would you like to be ahead of the magazines - even CU Amiga?

Now you can. CU Amiga proudly brings you the hottest phone lines since the telephone. The CU tips lines are here to help you where you need help, to answer your every question, and to give you some idea of what we all sound like. That's not all. Each month we'll bring you a complete run down on the hottest game of the month, giving you playing tips and tactics, cheats to see you through to later levels, and tricks to amaze your friends. We have a full cheats line updated every week, so we can bring you the tips as soon as we get them - long before they reach any magazine pages. We'll cover the latest games as well as some garden oddities that will have you all feeling your hair out in frustration. On top of all that, we have exclusive competitions to win prizes other magazines only dream of, and much more. This month there's the chance to win a brand, spanking new A1200, so you can make the most out of Commodore's latest advance in home computer technology. All you have to do is pick up the phone!

GET PERMISSION!

Very important note: These calls are charged at the Premium rate, so they cost more than a standard call. If you are under 18, please check with the owner of the line before making the call. Calls are charged at 36 pence a minute (plus 10 pence a minute at all other times). These lines may require a long call. Calls should not be longer than five minutes.

STREET FIGHTER 2 - 0839 500 875

This month we give you the complete players guide to US Gold's fabulous Street Fighter 2 (Over 40,000 copies of the game are sold in the run up to Christmas, so it's the fastest selling Amiga game ever!). Are you having problems with your special moves? Do you want to know who is best against the bossess? Do you want to know the best surprise moves to take out any other human opponent? Everything you need to know and more can be found on this number.



COMPETITION TIME - 0839 500 876

As everybody knows, life is a competition and what a handout of a prize we have for you this month! It's a real 100 games while it's got a number tagged! It's a Commodore A1200, and it can be yours for the cost of a phone call. All you need to do is call the above number, listen to the recorded questions, and when prompted to do so, leave your answer, followed by your details (name, address, telephone number) as described on the line. The closing date for all entries is 20th of March 1990, and the winner will be notified by post. The editor's decision is final, and no correspondence will be entertained. Employees of EMAP are not eligible to enter.



TIPS LINE - 0839 500 877

Line 2 is the fastest tip line available, updated every week to bring you the latest cheats around. Tips on this line probably won't have been seen anywhere else, and will more often than not be of brand new games, as well as classic oldies. So, if you're the sort of person who likes to make huge bets with your friends that you can teach a game faster than them, call this line to find out how.



IMPORTANT

Please do not call these lines before 23rd February as you won't get any thing before then. The lines become operational on this date. These lines will not be operative after 23rd March 1990. Every these numbers are only available to UK residents.

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Figure 1

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Age Group	Percentage
18-24	10%
25-34	25%
35-44	20%
45-54	15%
55-64	10%
65-74	5%
75-84	2%
85+	1%

1. *Journal of the American Medical Association*, 1997; 277: 1039-1043.

PHOTO: PETER BARNES; STYLING: JESSICA HARRIS; HAIR: JESSICA HARRIS; MAKEUP: JESSICA HARRIS; DRESS: JESSICA HARRIS

1000

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TROLLS

Have Flair come

up with a con-

tender for the

'Most Console-like
platform game'?

Tony Dillon swaps

his pen for a

joystick.

Trolls sure have changed a lot since I was little, reading old stories about the terrible ogres that lived under bridges and molested goats. Now, it seems trolls are small and sweet, with lovely, fluffy hair and a way smile for everyone they meet. Children used to be terrified, and now all they want are cute little troll dolls. This game doesn't actually have anything to do with the mega-popular toy, but the main character is similar in much the same way as Millennium: Platonic. Trolls is set in a toy shop where a myriad of terrible things have happened. In true fairy tale style, this particular toy shop has come to life, only none of the other toys like our little troll, and want nothing more than to smash him to pieces or melt, gulp, melt him full of the stuff it's about setting for a platform game. Don't you think?

So, a platform game it is, and once again we have one that this console played all over it. There's nothing obscure or screen at once. It's a by-the-byes of computer trends and music, and more playability than table tennis. (Less of the games and more of the review please) - 80%

Trolls is a highly entertaining and very, very playable. Set over seven different worlds, the game takes you from the sweet world of the footpath (as usual, although I miss the Chaos Chaps from Zool), through the Media Section with its entertaining newspaper backdrop, telling of alien agents saving the world, through to Flapgood Lane and Flapgood Lane, all platform action across the gorgeous, high speed, multi-colored landscapes, never all come to extend from such games.

As you run and become your way through the levels, you have two aims. One is to complete the last task, you really to find a certain amount of baby trolls and take them to the pig shop. A pig shop is like a but shop, except you get to piggy back (green). The second aim is to collect the bonus letters.

There are hidden-in-balconies dotted around the levels. As you walk past a balcony, it turns, sending the object inside sky high. You have to walk around to catch it, and it could be anything from a letter to a barrel.



Most of the levels are little mazes, so the way of exploring them, rather than dodging and shooting.



Toy trolls, and as you can see the troll must bring things to women for a special reward. Most you, it's better your side.

stayed (points or health) or lots of the special objects complete with hair dye. Called all the letters, and you get to play a bonus game, where you have to collect as much as possible, and still find your way to the exit before time runs out.

Visually, this game has little new to offer and it's full of the same old cuteness and visual jokes which, while being to look them, still makes the game for something fresh.

It plays well, and the controls are responsive enough. It's a good way to take a few evenings of your life. If you like the platform game, and you're looking for a new challenge, then you could do it all week. It isn't one of the best, but it is up there in the top 10 percent. All that's needed now is a little more originality.

TROLLS: £25.99

AGE 4+ 100% 100% 100% 100% 100% 100% 100% 100% 100% 100%

NAME: THE SMITHS SOFTWARE, LANE, NEWCASTLE, TYNSIDE, NORTH.

RELEASE DATE: 1994
GENRE: PLATFORM
TEAM: 100%
CONTROL: 100%
NUMBER OF DISKS: 1
NUMBER OF PLAYERS: 1
HARD-DISK INSTALLABLE: NO
MEMORY: 100%

GRAPHICS: 100%
SOUND: 100%
USABILITY: 100%
PLAYABILITY: 100%

Entertaining enough, but we've seen it all before

OVERALL 79%

SIM CITY DE LUXE

Sim City is definitely a game that needs no introduction. After selling over a million and a half units around the world, it paved the way for products like Sim Earth, Sim Ant and Sim Life, and now has come full circle with Sim City Deluxe, everything you could ever need to be Mayor.

The basic premise of Sim City is that you act as a sort of Godfather planning mayor of a small city. On the face of it this seems to be a completely boring idea, but it turns out to be one of the most interesting things games.

Inside the glamorous black and gold box are three packages, which link together to create a complete system. There's the original Sim City, of course, where you do all the actual town planning and management - the heart of the game that. Although that is the previously released Sim City format (for Architecture 1, the Turkish Editor, not surprisingly, allows you to alter terrain to your liking, so you can place your town on a rock island, or under 10 feet of water, which isn't advisable. Architecture 1, on the other hand, is a set of three new scenarios for you to work with, all based in the far future (Future Europe, Future USA and a Moon Colony), and add stacks more challenge to a product that it already keeps you up at night, and income at weekends.

Sim City is now four years old, and thankfully it's still going let us enjoy it as it always was. To say it's a classic would be like saying there is a good reason game. If you don't have Sim City already, then there's no better way to get hold of it.

Tony Dillon
Infomagsman £25.99

92%



You don't have to build a city from scratch. If you like, you can start with a pre-built city, which is the best way to build a city.



So, when you're looking for the best way to build a city, this is the best way.

CRYSTAL KINGDOM DIZZY

If you've been looking for games for the past few years, and Dizzy was one of the first games I ever reviewed. Crystal Kingdom Dizzy, is the seventh Dizzy game to date (Dizzy 7). What makes this game so special is that it's a game about the game of the game.

This time the story tells of the magical treasure of the Yabbits, which has been stolen, and of a young girl the young wizard Dizzy who goes to recover it. To do this, he has to work his way through five medium-sized levels composed of his own platform action with a couple of traps and lots of puzzles.

The thing that makes me feel about the game was how incredibly easy the puzzles seem to be. I don't know, maybe I'm too clever, but it seems to me I could think of a solution to a puzzle, and then I find a solution to it in a few, it doesn't seem too difficult to put too and too together.

Visually, the game could be any of the other Dizzy. Dizzy will appear when he jumps from his name and the same simple background surrounding the same old level sprites. The game is obviously trying to be cute, but there are more of the little touches and expressions. In and in other, the better times.

Crystal Kingdom Dizzy is much the same as any other Dizzy game. Save your money and avoid it.

Tony Dillon
Codemasters £7.99

48%



There are only about 100 levels in the game, but it's a good way to build a city.



You can only save three items at one time, but I should you'll want to save that thing.

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SLEEPWALKER



Keep with the theme in the jungle, as things like this are relatively rare in the real one - common in the game. The real one is a much more realistic one, with a much more realistic one.

Call me a miserable sissy old geezer if you will, but I used to feel all those 24-hour TV charity shows such as *Drop Dead Gorgeous* and *Real Housewives of Hollywood* were a bit of a drag. Nothing but an endless stream of boy-looks-alike singing "Gang Gang Gang," and talk managers presenting giant card-board cutouts of the contestants. I was a bit of a snob, I guess. That was before *Comic Relief* came along and showed us all how it should be done. *Swag*, *Jeff*, *Chad*, and *Michael*... well, I guess the boy-looks-alike and replace them with quick-fire comedy sketches, and cut out all that depressing music on the serious bits. The cash they raise speaks for itself. For this year's event, as well as all the T-shirts, tapes and videos, *Comic Relief* have teamed up with *Osborne* to release *Sleepwalker*. For every game sold, *Comic Relief* get £10,000.

Yeah, yeah, but the game's supposed to be a fast-of-subtle, right? Being the sceptical sort that I am, that's what I was expecting, but I was pleasantly surprised to find it's actually a pretty good little game.

CARTOON CAPERS

Did you ever see that cartoon, where a hedgehog gets out of bed one night and starts sleepwalking down the street? His dog has to save him from countless gilly deaths, as he marches obliviously through building sites and across busy roads. The *Osborne* boys must have seen it, because that's *Sleepwalker* in a nutshell.

It's a funny old game. Instead of controlling the sleepwalker, you play the part of his faithful friend. It all begins like *James and the Magic Bean*. Lee, your character, climbs out of bed, steps on his dog, but instead of going for an under-bed adventure (as



James would with his magic bean), he struts straight out of the open back-room window. Fortunately, he doesn't plummet too slowly to his death, but lands himself on the roof of the house next door. If he had any sense, the dog would just get him back through the window and into bed, but that would be too easy. Instead, he decides to guide him around six life-threatening levels, before eventually getting him back to bed.

As Lee is intent on marching around like a brain-dead zombie, you've got to be clever. You can push him, slap him, or give him an almighty kick up the backside. Apart from that, he's free to wander where he likes. It's not enough thought, to just push him from one end of the level to the next. (Each level is an absurdly simple of pitfalls and traps, so most of your time is spent clearing the way for Lee.

A NIGHT ON THE TILES

Level one starts on the rooftops of Kipsville, with *Flash* desperately trying to stop Lee falling to his death

from a four-story building. Although you control *Flash*, it's Lee's life that you're concerned with - you're immortal. For a little bit, Lee's a pretty tough and ready kind of guy. If you do let him fall off the roof, he probably won't even wake up. Even so, every time Lee wakes into a wall, or drops from a height, his speed is reduced, like a shock. If he wakes up, you know it's time, as you do if he manages to kill himself.

Leaving him to wander around on his own for a while, you can try to find a route through the level. There are a few places you can leave him marionette up and down between two walls. This keeps him safe while you work out how to stop

him. Good news provided by controlling the dog.

Even then, it's not a simple matter of finding a route to keep the dog safe.

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Even then, it's not a simple matter of finding a route to keep the dog safe.

WALKER



above the traps ahead. He's never entirely safe though – constantly walking into brick walls takes its toll.

Water is Lee's second enemy in the first level. Sometimes left this man-free cover off the screen, and if he drops into the contaminated sludge flowing underground, it's curtains. Other hazards include open skylights, lava boiler tanks, traffic, and an available night club bouncer. You're armed with a baseball bat, which comes in handy for subduing the dog catcher and the bouncer.

Most of the water traps simply have to be avoided. Lee can be kicked over many hazards, including gaps in the platforms. If the gaps are small enough, you can make yourself into a human bridge (well, a canine bridge really), but you know what I mean.

Before Lee starts, Lee has quite a knock for water drinking. Unfortunately he also has a weakness for drinks himself once he's finished the water.



Shows things you don't get shot across the screen with a lot of water from the dog catcher's tank, you can make a lot of the game's work.

IT'S NO JOKE

Without play's dog cat in the game, Ralph is animated with a lot of very good expressions, and for all the goggle-eyes of Nite G. Coyote. Here, also given momentum, as if you change direction suddenly, he slides, then turns and runs back. In other words, it all helps the control box, but doesn't do much for the gameplay. Okay, so Mario does when he turns round, but Sleepwalker takes the idea a lot further. If you land just on the edge of a platform, instead of either falling or staying on it, he spends a few vital seconds flailing his arms around, and then falls off. By the time, you could have done himself a mischief or fallen from the top of the level right back to the start. As you can imagine, it's extremely frustrating to see all your work go down the gull, just because

If you've bought the nose, worn the T-shirt and watched the 24 hour TV show, now's your chance to play the game. Tony Morgan [miserable, stingy old git that he is] donates his right hand to Comic Relief.

Ralph was his duty being funny.

It's not all bad – far from it. It's the funny that makes the game. Making Ralph immortal was an excellent idea. He could be put through an industrial size meat mincer, and he'd still have something to say.

A wonderful way to roll Sleepwalker is a running game. There are a lot of obstacles, but here you get much more of a feeling of involvement. The only real problem I can see is the longevity potential. It feels down to a game of trial and error, as you end up going through the motions for each level, until you get to a new section.

Despite this, Sleepwalker is a good laugh, and should leave platform addicts amused for a while. ☺

IT'S DOG'S LIFE

The Sleepy dog will go through for the master's lucky for Ralph, he's a master dog from the start if Coyote school of dogs, to be more actually dog, whatever happens to him, it's like the old dog, Ralph can expect to be.



...after 15 years of education work.



...after 15 years of education work.



...after 15 years of education work.



...after 15 years of education work.



...after 15 years of education work.

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 CONTROLS: 100%
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 GRAPHICS: 100%
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 MEMORY: 100%

GRAPHICS: 100%
 SOUND: 100%
 CONTROLS: 100%
 HARDWARE: 100%
 MEMORY: 100%

“Often frustrating puzzle and platform fun”

OVERALL 81%



WAXWORKS

Accolade's gruesome little arcade adventure is frightening people out of their wits so much that they are looking at slots at problems in the game. Here's a collection of the most common trouble spots. Thanks to these nice people at Accolade.

In the Jack The Ripper section, you need to find the rope. To do this, find you and stand facing the door where the dog is. Put the dog to sleep using the sleeping pills, and turn right. Now walk forward one pace and turn right again. You should now be facing another door. Open it, and inside you'll find a barrel. Inside the barrel is the rope!

In the mine, you need to find charcoal. This forced quite a few people as they assumed that somewhere in the mine was a nice patch of charcoal brackets just waiting to be collected. No so. Go to the north-west corner of the mine, and locate the barrel of gun. Now swing the prop well-of-where you have to hand and voila, some charcoal.

HUMANS - JURASSIC LEVELS

Having a little trouble with Morgan's Landscape? Well, no more, and now you're better than a Klingon. Because here's all the level codes for this fine game. You'll have to be fast with or without a cheat. Which, let alone, help you complete it, then I don't know what will.

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100. HUMAN 00

In the pyramid, you might be finding that the second level isn't particularly large. What you need to do is find the hammer and take it downstairs to the ground level, then knock out the support beam. The ceiling will come crashing in, but never mind because now the entire second level has opened up!

SLEEPWALKER

Get from the sticky hands of David Darcy from Bristol some these cheats for Ocean's brand new platformer. On the level screen, simply type in LONGINGFORAGAMEMYNANJA LONGINGFORAGAMEMYNANJA and Lee and Ralph's real names will turn bright green.

Now, when the game starts just press RETURN to skip levels. Or press TAB to skip up Lee's sleep bar, and give you more attempts and fight up the next COMBO. Finally, pressing 1 will give you a full map of the level.

If these cheating tips don't get you going then nothing will. Thanks, David for donating these tips.

$$E=Mc^2$$



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POW! 100% 100% 100% 100% 100% 100% 100% 100%

It's a head start at the ADI Junior.

Of course it's easy going thanks to ADI Junior's educational slant. It's always on hand to help as it walks through just another fun and counting game on the computer.

It even conjures up reports on its words for Mum and Dad as they walk into the teacher at school to help with my 'crazy' words! (what am I, a meta computer?)

It's such fun to play with, it's the perfect background for any of us - from under 4 year olds right up to big 7 year olds - and everything in between fits in with the National Curriculum.

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STREET FIGHTER



The second in our three-part guide to the streets.

Having trouble with the rabble? Let Steve Keen shed some light on how to beat the fighting characters at their own game.

2



VS. E. HONDA

Fast back pressing him to repeatedly kick. Honda loves jumping in the air coming in from enough to happen you, you don't give him the chance. This tactic will knock him backwards every time. Try and get a couple of Fireballs off when he's at a distance, but don't be too busy with this basic defensive move. If you miss the kick you'll almost definitely get a throw in. This technique is best attempted in corners.



VS. CHUN LI

Fast Chun Li is a massive damage by waiting for her to jump in on you by pulling downwards and throwing. She's the fastest of all the Street Fighter characters but you should be able to string together quite a few throws before she knows where she is. Once she's out, repeatedly kick her by pulling down on the joystick and pressing fire. It doesn't take much to run the match and you'll be victorious in no time.

VS. KEN

Ken is fast and versatile. He can use his fists and feet as quickly as he can whip off a special move! If he breaks your attacking circle you've had it, so make sure you're in a winner from start to finish. When he moves in close, repeatedly throw him over your shoulder. He'll then try and get up to just keep throwing. Eventually he'll try a Hurricane Kick at which point you can counter with a simple standing toe kick.



VS. DHALSIM

Keep your foot steady and catch him with a well timed Fireball at the beginning, when he's most vulnerable, he'll go down straight away and be stunned. That's your chance to strike if he does. Move in quickly for a throw and then crush down and repeat rapidly kick him. Next block steadily so he can't get any momentum back. Look for his long high kicks coming towards you and as his leg extends jump over his head and attack him from behind.

VS. GUILTY

He is instead of the straightforward one, but don't be fooled by his pretty looks. Due to his great aerial combat skills Guile will spend most of his time jumping around you, so make full use of his time. Dragon punch. Don't bother with Fireballs as he will tend to cancel them out with Sonic Booms. If you can't time your Dragon Punches, crush and use leg sweeps to hit him as he lands close to you.



VS. ZANGIEF

Zangief's normally a complete loser, but here the spirit is as tough as steel only! However, he's completely immune to Fireballs and does what you fail to punch and he finishes tournaments in a second. Perform the Fireball move and even if you miss he will walk into you and hit attacks. If he begs you in a corner simply jump as high and punch down and he'll move back enough for you to escape.



VS. BLANKA

Although Blanka has an incredibly long reach and possesses enormous strength he has a tendency to loop in too close when in combat. He's natural defense to this is the Dragon Punch and you can catch him under the chin almost every time. If he does manage to get in close to you jump away as quickly as possible, otherwise the bout will be over before you know it!

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and not even the Bard is dead. And that's our

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Back to Florida. Florida why he was named after people? (like that really is the question)



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RYU VS. THE BOSSES

VS. BALROG

Balrog strikes long-range attacks. It is better to keep blocking at a good distance with Paradoxe. He is also quite vulnerable to Hurricane Kicks, especially the low one he back on you to knock his power gauge. In close range combat use your attacks (don't use jabs and today) to drive Balrog back.

VS. VEGA

Vega is the fastest fighter on the Street Fighter street and when he gets to close with a speedy attack he's deadly deadly. It's best to keep him at bay with Paradoxe and the cut Hurricane kick if he tries to come up on you. When Vega starts the fence jumps a Dragon Punch to push him as he falls in front of the bottom edge of the screen and continues backwards with a kick as he comes back.

VS. SAGAT

Don't let Sagat's Tiger Paws get you and use a spirit combination of punches and kicks to knock the big bad down. The Hurricane Kick will get you up close and when you're back you'll have to go back on the jabs to take him out.

VS. M. BISON

The big boss takes no prisoners. He's faster, stronger and heavier than anyone else and his special attacks are powerful for power. You can't wear him like the Running Knee attack, only jump. It will only be huge victory on you and watch for speedy punches and jabs - you might be lucky!



HONDA



VS. RYU/KEH

Just pull back his joystick and kick. Ryu will come within kicking distance a couple of times when he jumps in on you. Time his readings for when you press the button. Then change tactics and finish him off with the Hundred Hand Slap. That's even easier to do. Honda can use the same tactics. Instead of pulling back at the time try swiping around and pushing forwards, hitting him just as he lands in front of you for a huge crush or three.



VS. DHALSIM

The good thing about fighting Dhalsim is that even when his balls are stretched out towards you for a hit, you can smash them back causing as much damage as it would hit his body. All you've got to do is perform the Hundred Hand Slap and he can't come anywhere near you. However, he still has the Yoga Fire and an lighter level, so it is best to keep his distance. If he tries to teleport in on you just pull back and press fire to kick him out of the air. Jump over his or block if there's no time.

VS. ZANGIEF

Honda can make complete mince-meat of the fat Russian by using the Hundred Hand Slap. If you want to try another move jump in and kick or drop down and swing his legs away from under him. Zangief might insist it's right chance if you've had an all day. End with Honda's special power! The big guy doesn't know what's he's in!



VS. CHUN LI

Like all the best only fighters Chun Li will come about your head and try and attack you from behind. Just crouch down and watch her legs away from under her as she walks towards you. Hide your time and let her jump over your head. As she passes, quickly turn and hit her with the same move as she lands. Chun Li's been knocked down, hit her with the slap. You know how little trouble in dispatching her. If you follow these tactics.



VS. GUILLE

Don't put off attacking Guile for too long because he'll use his long range Sonic power to catch you into the ground. Start jumping towards him while at the same time pressing up your Hurricane Kick as you fly through the air. Once in close you'll be mid-slap and you will have knocked him completely off guard. Finish of the pest with a huge sonic snarl by pushing forwards and pressing fire.

VS. BLANKA

As we've said before, for some unknown reason Blanka hurls towards you trying to get in close. Let him come, in fact encourage it by taking a few steps backwards, and then hit him with hard back and chops. Blanka will then probably try and move away so shoot up close to him with the Sonic Teleport and repeat the process. Try to avoid the slap with him as he has a real way of getting round it.

HONDA VS. THE BOSSES

VS. BALROG

If you take the initiative in the fight you move in close first you should have the many problems. Jump up of hitting from the start while pressing up a Hundred Hand Slap that will hit with a big swing to knock him back. Keep repeating this movement and victory will be yours.

VS. VEGA

The Spanish fighter is probably the hardest boss to beat of all. The key to winning this fight, as it always is with Vega, is timing. Vega is faster so he'll knock as it's possible to hit him from an angle. Let him jump at you and have a kick to hit him as he lands. Immediately follow this up with a Hundred Hand Slap, while he's in front of you and then move back slightly for a repeat hit.

VS. SAGAT

Once again the key to Sagat's special power is a lot stronger than yours, but your Sonic power is better than Sagat's. Get in close to Sagat by crouching in front of the beginning and then use a series of combinations to force him back into a corner. Once you have him pinned use the Hundred Hand Slap to take him down. Move in close to win the fight.

VS. M. BISON

Beating this giant is an achievement in itself. Now, it is able to beat Bison you need to beat a corner. When the fight begins jump backwards until you are in the end of the screen and then press up the Hurricane Hand Slap which will instantly hit him down. When you've won him use a combination of jumps to force him into your corner and finish him off with the slap.



CHUN LI



VS. ZANGIEF

Speed gives Chun Li an extremely attacking profile. Punches are her strongest weapon and although short one of the best at taking these moves are not so damaging. Hundred Foot Kick Zangief and then jump over his head, slide down and punch and kick. If he jumps in on you roundhouse kick him.

VS. E.HONDA

Honda's easier to beat than Zangief. Just jump over his missile attack and come up behind for an easy finish. Unless the Spinning Bird Kick if you get stuck in the corner and Honda will be knocked backwards.

VS. GUILE

Like Chun Li, Guile is a master of aerial combat, so try not to fight him in the air. Keep close to him so that he doesn't try a dash. Boom and use your Spinning Bird Kick and sweeping kick to defeat him.

VS. BLANKA

Well will he jump as you, block him and then retaliate with quick punches and slides. If the backs off get ready to leap over his Rolling Attack.



VS. KEN/RYU

Don't let your opponent's speed and power in close combat it is far better to hold back, wait until they jump at you and then counter attack with a Spinning Bird Kick. Once your opponent is stunned move in close for the kill and throw Hundred Foot Kick or punch them to death!



VS. DHALSIM

Get in as close as you can without being hit first. You've got to do this as fast as possible. Jump or run, it's not important, just get in close and by 10 you'll have him there. Once he's down get him in a corner and Hundred Foot Kick him into submission.

ZANGIEF



VS. HONDA

This battle will feel down to sheer power as neither Zangief nor Honda are known for their subtle attacking methods. Use a flying punch attack to get in close then follow up with a rapid and heavy Fists back into a corner. Once you have him pinned, continually attack with a Spinning Combination to beat him.



VS. DHALSIM

Don't hang around him or you'll be picked off by Dhalsim's extensive rubber limbs. Jump in with a flying punch or drop kick and get in close, then punt him with power blows until you have him in range.

VS. BLANKA

There won't be any fancy moves used in this fight, the winner will be the one who hits faster and harder than the other. From the start leap straight in at Blanka and use quick attacks to keep him off guard. Because of Blanka's tendency to come on to you that's one of the easiest to get in close to.



VS. KEN/RYU

Get in close to the body and stay there if you want to win. Once they alternate between high and low kicks and when they're pummed enough slide and push forward on the joystick and press fire. You'll scoop them up and over your head. Quickly run up to them and repeat the process.

VS. CHUN LI

Chun Li will tend to jump over you and try to strike from behind. To combat this, stand close and let her with a toe kick at the lands. If you keep repeating this process you will soon beat her.

VS. GUILE

If you know the method you used to beat Ken and Ryu you can't go wrong. Quickly get close and use high and low attacks for maximum effect. If you don't do immediately move in close and use the Fire Down to add a massive decrease in his energy.

CHUN LI VS. THE BOSSES

VS. BALROO

Being shorter I'll have a better chance for Chun Li. Move close to him using Spinning Bird Kick and Hundred Foot Kick and look for an opening as it does and then throw.

VS. VEGA

Chun Li can just stand away up with the Spinning wheel. But Vega is a powerful foe whenever taken close and then he'll reward you his fire when he returns either in one. Alternatively from the start use a Spinning Bird Kick and if you're lucky you'll hit him twice. Spinning him over is a win. By the time he's recovered you will have taken quite a sizable chunk of his energy away so just keep away with kicks and punches till the end.

VS. SAGAT

The best tactic is what here is to jump at Sagat using the flying knee attack. Don't bother with any more but when a long time has passed you won't be hit.

VS. M.BISON

Use the same tactics as with Sagat. Jump over his fire and get close with fast punches and slides when the enemy is vulnerable attacking you. When you've got him cornered the throw will on the screen screen before hand. Though as this has been said and was not made for beating!



ZANGIEF VS. THE BOSSES

VS. BALROO

Maybe this fight with a flying dragon like you can take and chase it for him and then fire him into his corner. Once pinned use the Spinning Combination to win.

VS. VEGA

If you can keep Vega in one place long enough use the Spinning Clothes Line, but this is not tough fight.

VS. SAGAT

Edge towards Sagat, then when near by throw him with a throw and use that for the throw. Now you are in close position with quick hits and slides and head off with the Clothes Line.

VS. BISON

Perform a Spinning Clothes Line and with only back those should push into it. Now use quick kicks and punches and instead to repeat the process.



NEXT MONTH

In the third part of this guide to the best Amiga beat up game, we'll see how Ken and Ryu can win with more tips. In the next issue we will give you the low down on the remaining street fighters - Ken, Guile, Blanka and Chameleon.

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Abstract

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ANIMATION, GRAPHICS, EFFECTS

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1. **QUESTION** 2. **ANSWER** 3. **QUESTION** 4. **ANSWER** 5. **QUESTION** 6. **ANSWER** 7. **QUESTION** 8. **ANSWER** 9. **QUESTION** 10. **ANSWER**

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HOW TO ORDER

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Figure 1

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

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PAGE 10 OF 10

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IT ALSO HAS STRONG AND PROBABLY
COMMON PARTS IN THE CHINESE
AND JAPANESE. THE JAPANESE
CANNOT READ.

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1. **THE STATE OF TEXAS**, County of **DAALL**, do hereby certify that
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INDIANA JONES AND THE FATE OF ATLANTIS

When last we left our hero, Indiana Jones, and Sophia, the sultry stage psychic, had just journeyed to Monte Carlo. What now? US Gold's action-packed graphic adventure storms on!

As before, the main bulk of the text describes how to follow the adventure by the Tumb path. Supplemental information follows for the particular problems of the Vile and Pike paths, where relevant.

Once upstairs in the hotel, you may either let Sophia try and impress Trotter with a lecture on, if you've been to Egypt, those few interesting with the Sumerian gods. The answers to the first two questions with which Trotter asks Sophia were given early when he chatted with Indy, so pay attention! When he asks about Egypt you could just try guessing, after all you do have a 20% chance of getting it right, and you can't be sure by taking the game too seriously anyway. The number of fingers changes every time this question is posed, however, so it doesn't automatically follow that if you take the finger test five times you'll get it right—guessing means just that: trial and error.

At some certain course, especially if you have a taste for the melodrama, why go to Egypt before Monte Carlo, and pick up the lightening bolt from the ship. At the island, while Sophia and Trotter are busy, Indy may open the cabinet and take the flashlight from inside. After opening the floor, Indy may use the flashlight to break down the door to the stairs, the bottle, and the lighting to enter a tiny ship that lies separately at first. Right in the center of the main and Trotter should be suitably impressed, leaving Indy the Sumerian he requires.

FUN IN THE SUN

Now go to Niagara. If this is your first trip there, and you don't yet have Trotter's Sumerian, visit the shopkeeper at the end of the beach after following the path leading along the waves to the left. Pick up the map so that you may now return to Monte Carlo.

NOTE

Once you return to the beach, you will find



The up-and-coming changes on this segment: Here, you can take the up-and-coming changes walking. Note how through the golden passages of the city beneath the sea.

low the sure the Sumerian sleeping procedure described above. If you already have the Sumerian, approach the shopkeeper and take the mask from his stall—assuming, of course, you don't already have it. Indy should now lead the Sumerian to the shopkeeper—he will reveal himself as Omar Al-Jabbar. Omar will offer Indy a map showing the location of an archaeological dig—take it. It marks the spot. Before leaving, make the mask look to Omar for another object, such as a bronze scepter.

Take this view of the map and take it to the generator. If the generator doesn't want it, take it back to Omar and exchange it for another item. Continue to do this until you have found an object which the generator will accept.

Give the scepter to the beggar and accept the hat. Don't forget to return. Now go to the hole thrower and persuade Sophia to volunteer for the act. Indy needs to speak to her using the hat, then the first sentences of the dialogue path offered. When she approaches the hole thrower, push her. After questioning the act, the hole thrower will reward Sophia's co-operation with the gift of a ship.

Go to the balcony under on top of the roof, get from the boat, and take your balcony seat. Once again, Indy needs to go to the hole thrower using the hat that will return the balcony to the ground—use the hat with the rope to do this. If you don't spot the hat, use what lying over the debris (if necessary, show Omar's map to the boat, and get directions if the distance to the site is described as being considerably farther, that means it is too far away in the direction named, just a direction (east, north, etc.) indicates a distance of one screen in the direction named, a direction preceded by the words "slightly" or "very" indicates that the site is on the same screen as Indy's present location—take to the air again and have another look. To land the balcony of a particular

location, click the left mouse button repeatedly on the equivalent controls near the balcony overhead.

DIGGING FOR VICTORY

As the dig, the Sumerian will wonder off—leave a hole. In fact, Indy should use the ladder to climb down the pit—in the dark down there, but Indy shouldn't come to any harm feeling his way around. Pick up the long, tubular thing (a torch) and the clay thing (a pot and some back up the ladder. Climb to the truck, and onto the car. Indy now needs to use the hat with the wire and the jar to go to the hole with the pot (jar). Return to the hole at carrying the jar (jar) and open the metal cap on the metal thing (the generator). Use the jar like the wire now exposed with the gas-filled jar to return the generator. Now use the hole metal thing—an arrow switch—in the generator running, turning the underground scene with light.

Pick up the jar of a ship, positioned near the ladder, and use it to push away the crumbling wall to the right. Leave the wooden buoy from the table into the hole in the center of the mound, then place the Sumerian on the roof so that the right symbol (indicated in the last page of the first newspaper off the left hand page of the map marked by the third newspaper), is opposite the beam above. Now click on the map.

Once Indy has been awarded with Sophia he might be asked of the generator, open it and replace the spark plug. Together with the Sumerian captured by Sophia it will now be possible to restore life to the truck and boat. Be sure to make the amber fish on a string—it is used to detect vibrations.

JUST A MINUTOTA

Once at the next stop on Indy's list. After landing find the path to the left of the screen and follow it to the old lighthouse. Push away the stones from the mound in the beam seen to reveal two statues—a bull's head and a cat. Follow the cat's path to the right of the hill above the dig (the dig is on the far side of the hill from the pedestal) and use it on both statues.

ONES LANTIS

PART 2



Feeling deflated? The bottom may have looked with a strong, but the sky also is just a more a threat away.

Once in place, look through the gate and position it to face the bulls' heads in the center of the ruins. From the bull's head align the vertical line with the edge of the right horn. From the bull's tail align it with the edge of the left horn. When done properly a dotted line will appear and indicate the location of a *Ukko* statue. Position the *Sunstone* on the pedestal with the same alignment used in the desert. Turn to the pair of pages in the Last Dialogue referred to earlier, and discover the setting to the *Maestros* from the first paragraph on the right-hand side. After both pages have been placed, slide the *gavels*.

Enter the labyrinth through the recently revealed door. Take two of the bulls from the shelf and go through the wall. Now use your whip on the remaining wall which is still visible. Don't worry about the gate closing as the only way forward is in the labyrinth.

Have a look around the labyrinth. When you reach the closed gate use the three bulls on the shelf to open it. To get the gate back you first need to find *Guamara's* staff to release the counterweight and tip her the lift.

Find the room containing the minotaur statue and stand on the leaning floor. Persuade *Sophia* to join you and the floor will turn into a lift to the level below. If you and *Sophia* aren't quite heavy enough use your whip on the minotaur's head to add more weight.

Go on below only with the staff next to *Guamara's* corpse as well as the *Ukko* statue. Having removed the *Ukko* statue, knock out the material and climb back to the upper story using the chain connected behind it. Take the staff back to the gold box screen and use it with the chest, finally freeing the counterweight. Descend to the room below and chase the staff in the mouth of the statue. The device will take you back to the room with the gold box. Take the box and the two *Ukko* statue heads.

The right *Ukko* statue is used to set the statue straight to the left and swing the large stone beam in the center of the *Ukko* statue.





Where's the coin? The philosopher questions himself as often.



Great description: one of the economically useful ballistics — a useful question is when to flip and a trigger.



Looking forward? Only when you have a perspective which is worth it. Let's just say it's a very unusual action movie.

Once in the machine room, use the bronze spiked wheel on the peg over the statue, then use the cap of steel with the funnel at the top of the contraption. Afterwards, look in the dish beneath the statue's mouth. Take the metal part from the center and the bronze wheel — they'll come in handy later. There is also plenty of parchment here, handy to stock up on while you have the chance.

To drain the water from the safety room and open its double doors, place one bead of ichthium in the red figure, then put another one in the left state or Sophia (never let her away from the cage until only the change pin from the lower ring of Atlanta).

At the canal, distract the octopus by giving it the crab caught earlier. The crab will fully operational — once prompted by ichthium you'll find it in its mouth. Unlike the gates with the locking chamber, the Statues will only lock gates in the first chamber, when you put with the spindle above the gates. The further Indy goes from the first chamber, however, the smaller the spindles become, requiring the smaller looking statue to open them.

The entrance to the Middle Ring is passed by using the ladder on the safety station, opening its chest, and replacing the missing parts. Using the diagram from the cupboard (in which a mouse-shaped gear may be found) as a guide, Indy may use place the bronze gear, the bronze spiked wheel, and the 1000-year fountain in the first ring, and the constant gear itself in the second position. Place the bronze spiked wheel on the central cog, put the solid part on top of it, and then position the constant gear across the two pegs on the right. If you want to move the same amount, place the bronze gear on the upper left peg, to move it backward, put the gear on the lower left peg. Once the has been finished, look



Just as almost vast water hydrogen and heat for that day, the statue is a useful question is when to flip and a trigger.

an entrance to the statue.

To get through the next point, use the chain with the bronze cog on the door. Move the left arm of the handle right, forward and around the left end of the chain to flip. Now change the gear in the robot to that it will move back to arm. The hinge pin with which to secure Sophia should pop out of this point. Once he's out, Indy should give it to Sophia, then fit the cage door and let Sophia to finish with the hinge pin.

After the has been opened Sophia will soon start to display some behavior — Her Alibi is connecting her through the machine. With Sophia in removing the machine by looking at her using a bead of ichthium in the machine's mouth, then using the opened gold box with the machine when Sophia finds it up.

The huge machine may be set in motion by a bead of ichthium in its mouth as well. Indy may replace the machine's missing steering lever with the hinge pin from the door that was pulled down, and the handle from the open with the lever pin. Before proceeding further, Indy should study the diagram on the wall in the corridor explaining how to run the machine (moving), and the diagram on the floor beside the machine showing how to stop it.

Once in the third ring, the steps in the foreground are the target for which Indy needs to aim — and only one of the doors gives access to them. The connections between the doors may be mapped (make note that some lead to one-way tunnels), and don't overlook the staircase! Once the laws must be walking towards patches that are open — whenever Indy steps on some law the door immediately in front of him will vanish. Set the locking stones to match the arrangement indicated on the wall of the lower main.

How may the distant Uffmann be welcomed? After all, we don't want Indy transformed into a bushy monkey, do we? When Uffmann orders Indy into the yellow, explain that it might not be a good idea to create a service monster in the next vicinity. Use a dialogue path starting with the third sentence, followed by the second, first, fourth, first, second, and third. With Uffmann's conquest the world may stop safely in a box and the next time it makes the philosopher with the ship — thanks to Indiana Jones! ■

THE WITS PATH

In chapter 1, go to the first ring and use the first sentence of the dialogue path, then the first, first, then fourth. Once the statue above the first sentence path, it's time to go to the first ring. If you find a hard to change that often, make the statue stand on the corner by getting into the water in the first ring. The statue already standing in the water is a good question is when to flip and a trigger. Followed by the first, first, first, first, and second. When the statue is in the water, the statue of the path before going to the first sentence path is already in the water.

A statue's head will also be in the water. The statue is in the water. Use the statue to move the statue in the first ring and use the statue to move the statue in the first ring. Use the statue to move the statue in the first ring and use the statue to move the statue in the first ring.

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To get a look in the water, use the statue to move the statue in the first ring. Use the statue to move the statue in the first ring. Use the statue to move the statue in the first ring. Use the statue to move the statue in the first ring. Use the statue to move the statue in the first ring.

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the TROLL'S HEAD

and ADVENTURE HELPLINE

RULES OF THE INN



1. No handling the Evening Wonders.
2. Operation: Hugs will not be served unless accompanied by their Mommy.
3. Justice, after "happy" under-age will not be served unless they can produce their guardians.
4. Please do not touch the Crops, the Fish, the "P" or the "L" signs.

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

WORTH: A bag of gold coins has been found in the rubble of a house destroyed by the eruption from a volcano in the far north.

HEROES WANTED BOARD

[illegible]

THE SHRINE OF KNOWLEDGE

Away from the noise and laughter which fills the bar, there is a shady corner where a red, velvet curtain shields the Shrine of Knowledge. It is to be seen that the bar-bos and the pendons come to seek help with those guests which have brought them to their losses. Cross near and loiter, so that you too may profit from the Fruit of all Wisdom.

MONKEY ISLAND

The fan recently received a letter with a message in it from Timothy Burns of Montreal. Unfortunately it was thrown through the window! Anyway, Timothy claims that (a) He is a faithful Old English reader, and (b) He is stuck on Monkey Island! Timothy's problem is, that he doesn't know what to give to the cannibals so they will trade him.

The Shrike again replies: There are two facts that the combats decide. (Three, if you count your pump-bicycle!) To begin with you should give some bananas to the monkey in the jungle in order to be followed by him. Now return to the giant Montney-head statue and take a closer look at the bottom gipsy which are nearby. It is possible to pull the nose on one of them. (Take a closer look at the one on the left.) While to the Montney-head and pick up the smallest odd that you may find there. Give this to the combats and they will be so delighted that they'll give you the key to the village. You will now be able to retrieve that Central pocker from the hut. The second one of the shrikes, are the shrike-birds. They are the only birds in the jungle who are able to fly down to the ground and walk like you. They are called "Shrike". Being head-hunters they will be intrigued with any information on how to get a head. (If the old jokes are the best.)



If you are tired of monkeying about in the Caribbean with your old water tentacles and old water-buff-out, the water-buff-out.

Seekers after truth should follow the path that leads east of the moon and west of the sun, for there you'll find the door to the Troll's Head Inn. All weary travellers are welcome here, so find a chair near the roaring log fire and rest a spell.



INDIANA JONES AND THE LAST CRUSADE

While most of us are shooting over the forested Indiana Jones adventure, *Charlie Brown from Mars* is still wrestling with life's last adventure. Deep within the German lines, Charlie finds himself in Castle Bismarck searching for a brass key to open the lock in the Uniform Stars. He is also interrupted by knowing how he can open the chest in Henry's room (2012, in the USA).

The other applicant isn't just a bad time to be wandering close to open a shared in this LMA where you are up to your neck in trouble in Germany? I trust you're not thinking of cheating! Anyway, purely to help other lost souls who are having problems I explain that it is possible to push the backdoor in Henry's house, and that will allow you to get a large load of sticky tape which has been stuck to the back of it. Take this piece of tape back to your office and place it in the gap of equal-width you find there. This is the point where you will go to receive a key. This is the object you must use to unlock the backdoor, allowing Himmelfahrt time to Claire Himmelfahrt you must find take your way past the drunk guard and make his time. Visit the kitchen and fill the glass with beer. Use the beer to put out the fire so you can take the road Goz. Head for the ground-floor hallway and get past the guard using dialogue lines 3.0-4. Now you can enter the Laundry and steal a servant's uniform. Pass the next guard and climb the stairs. Chuck into a nearby room and wait the servant's ultimatum. The next guard will accept a bribe of the painting from Henry's house and allow you to take the stairs to the kitchen corridor. A small mouse is in the kitchen, so taking it in the pocket

It leaves you to figure out how to get back to the Laundry and use the key which you have so cleverly found. Did I say 'You find it'?

LURE OF THE TEMPTRESS



Slithering your way through the caves of the Lure of the Temptress is a clever trick. Slithering isn't quite a magic incantation.

Having successfully made it up to the caves, the dragon's lair in *Lure of the Temptress*, Steven Smith of Northumbria has had a big problem. After talking with the dragon and gaining some important information, he and his girlfriend Gwyneth find that they can't return through the cave-system to the outside world.

The *Dragon* replies: I feel you thought you were really clever when you made it through the caves with the help of Gwyneth. It's a pity you hadn't used your sense enough to think about what you were going to do to get out again. When in a dangerous situation a few traps always guards the rear. The trick is not to take Gwyneth all the way through the caves. If you leave her some room back from the final cave, you will be able to use her talon to get you out again. Think about it.

OPERATION STEALTH

Michael Hayman doesn't live anywhere that is very interesting. At least he doesn't think it deserves a mention in the letter he wrote asking for help with *Operation Stealth*. Having been captured by the 'baddest', Michael is currently being carried into a net of pitfalls, and he can't be pleased about it.

The *Dragon* replies: What's the point of carrying all that enormous spy equipment if you can't use it? The pen in your pocket isn't there for writing long messages to the Troika Head Inn, you are supposed to use the and it contains to melt the metal lock on the cage. Once you have the cage door open you will be able to use the fence watch as fire a exploding bomb into each well and set the Bombside down. Now you can crawl along the wire and escape through the pitfall into the air vent.

ELVIRA I AND II

From a big cabin needed in the snow-covered wastes above a Norwegian fjord, Tony Caffrey has put a plea for help with both of the *Elvira* adventures. The problem with the first *Elvira* game concerns the chopper-working cook in the castle kitchen who decided that Tony's head would make excellent soup. In *Elvira II* your hero is going quietly into searching for the key to the



Rescue to Elvira's kitchen. Tonight we have a special soup, but the soup doesn't taste quite like other heads in it.

clover in the canes.

The *Dragon* replies: There was a cook of whom I was said, 'She was a good cook as good cooks go, and as good cooks go, she went! Unfortunately this cook is a bad cook, and she isn't going anywhere! But is the solution to this problem. Throw a fluff of salt into the fairy lady's face and she'll sneeze up before your eyes. The salt you need is hidden in the Torture Chamber on the Dungeon Level below. This handy item is guarded by a very tough skeleton who can be recognised by its red uniform. When you find enter the Spade Caves in *Elvira II*, head across the hall into Spade Caves. Find the skeleton and turn it on, for you will need it later. When, and if, you make it to Level 2 of the caves you will find the Master who has the skeleton key in his wallet. Use this *Spadebones* spell to release him from his little box.

ULTIMA VI

Having found seven pieces of the missing map in *Ultima VI*, Paul Knight of Lancashire is up to his second castle in trouble. Currently our hero is stuck on Level 2 of *Dungeon* thing, but is unable to get any deeper. Paul writes, 'I think it may be necessary to get into the secret room at the North-East corner of Level 1, but I cannot recall off the top of my head. The switch in the middle cell seems the obvious choice, but so does, 'Funny, nothing happens'. What am I doing wrong?'

The *Dragon* replies: You are correct that the map-piece you seek is to be found in *Dungeon* thing. On Level 3 you will find the Hydra's Chamber (very scary) and there, behind a secret door, you will find what you desire. That's the good news. The bad news is that I do not recall the solution to the riddle on Level 1, so encouraging the message which you mention.

MONKEY ISLAND 2



Something really is swimming in the galaxy when *Monkey* is released, but it looks pretty good. Practising special to make it really delicious.

A sloppy, beer-stained letter from Adam Montgomery has arrived pleading for help with *Monkey Island II*. Using the misadventures that he is in, Adam says he needs money to get off the island. He has got the cheese squeakers that he's not hold that against him, and he has tried polishing the pirate's pegleg for a reward (well he is desperate), but still no luck.

The *Dragon* replies: I'm not surprised that you are stuck at this point because the next port is rather hard. Basically, what you are going to do next is capture the pirates and get the gold in the soup at the bloody bar. When the pirate finds a rat on the soup he will fire the cook, and offer you the job. To do all of that you first need to find the stick on the path near the beach and read the note from the fisherman at the Bloody Go. Go to the Dry Chalmers, open the box and put the cheese squeaker into it. Use the stick with the box, then use the gold with the stick to ring some from the ceiling. When that rat runs to get the squeakers, pull the rope to trap him in the box. Now you can take the rat to the kitchen and dump him in the soup. Enter the bar by the front door, order something to eat and then wait for the bar to begin.

HITCHHIKER'S GUIDE TO THE GALAXY

I would have thought that by now everyone would have finished playing the old text adventure, from Infocom, but Richard Grimmett from Wales (where else?) has scribbled a plea for help with Infocom's *Hitchhiker's Guide to the Galaxy*. The book was confusing enough, but this game has got some pretty odd problems in it. Sticking beside the Concerning door around the shining Head of Gold, Richard cannot get through the tricky obstacle.

The *Dragon* replies: Whenever things get tough, the British have a cup of tea. Broken your leg? A medical team has just gone off in your basement? Never mind, just have a cup of tea and things are sure to get better. In this case some tea will help, but strongly enough having no tea will also make things better. Once entered the ship, pick up the interface card and head for the Reamster. Open the panel and swing the circuit board with the card. Leave the machine to get on with things while you return to the bridge to sort out some pressing problems. On your return you'll find that a cup of tea is waiting for you. Before you get this cup of tea, you have no tea. If you now get the real tea you will drop the 'no' tea. (I never said this was going to be easy.) Take the real tea to the bridge. Drop the real tea and you'll have the no tea again. The remaining clear will only appear when you are successfully floating 'real' tea and 'no' tea at the same time.

Obviously, only someone with no common sense could get himself into such a state of mind and this is what you must do. First, remove the dangle on from the tea bucket and put it in the real tea using the impossibility drive you can transport yourself into a whole is elsewhere where you will find a flower pot ('Gunslinger and conquer' and Alice.) Once you return to the ship you can plant the flower, and watch something grow. A final trip to the stars will cause more events to take place, and in the process you will lose your common sense. I must admit that I'm not feeling all that clever myself at this point.

DUNGEON MASTER

Now that Progress has re-released the *Dungeon Master* series, I am expecting a surge of questions for the classic role playing games. The first query to arrive is from Keith Perry in Leeds who is stuck on Level 8. The problem is how to get through the room which is full of transverse beams, for without an arrow from above it is quite impossible to clear and then move where he stands.

The *Dragon* replies: Simply step into the room and then move in the following directions: Right, Back, Forward, Left, Right, Back. That's the good news. The bad news is that you couldn't solve the simple problem you're going to be in real time when you reach the room of pits later on in the game. How that is a problem!

And that I'm afraid must be all for now as the *Dragon* must be closed for recharging. I trust these golden words of advice will help you move closer to your final goal, but if you seek further wisdom return again when the dark clouds cover the land. Until then, keep your sword arm clear and your spirits high. ☺

WRITE BACK

If you have a problem, a notice for the Board, or perhaps you have a piece of news that you wish to write to whoever in the line, write to Tony Gill at, The Troika Head Inn, CD Amiga, Priory Court, 30-32 Farringford Lane, London EC1R 3AB.

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Within the next section anything can happen. Every month, we will be getting to grips with new software, seeking out intelligent peripherals and inviting you to...

GETSERIOUS

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BUBBLE JET REFILLS

Mat Broomfield's always getting into a sticky mess. He decided to clean his act up with this ink refill.

Fifth systems for bubble jet printer ink cartridges are getting new, but now Flexibump manufacturers, Dave Broomfield, have addressed one of the most persistent problems with existing systems - the mess!

With refill kits, such as those available from Inkman, ink must be pumped into the empty cartridge using a miniature squeezy bottle. The trouble is, no matter how careful you are, you'll inevitably end up with ink all over your hands, to say nothing of any adjacent workings. This is



3 LUX-2

Too tired to dance? Are the strobe lights affecting you? Then let Tony Morgan show you the latest in armchair raving.

Armchair raving is really having off. It's cheap, you can do it any time of day or night, you can eat a plate of chips at the same time, you're unlikely to get scared halfway through, and best of all, you don't have to find your way home from the end of the world at 4 o'clock in the morning.

All this is made possible by a new wave of videos, spearheaded by the much-promoted *Dance in 3 Dimensions*. 3 Lux-2 is in a similar vein, offering 70 minutes of techno sounds and computer animations. The music is made up of 18 tracks, seamlessly mixed together to form one flowing soundtrack. If you're looking for real fireworks, you won't find many here. Most of the tracks are minimalist techno, with rapid programmed backing beats courtesy of Arpeggiators, *Vision of Brava* and *Time Warp*, among others. If you don't like the music on the tape, you can't quit

Just the basic photographic features to copyright, and those that do change (as in this case) are shown and labeled for clarity when needed.



The veteran of page layout programs has just been given an overhaul.

Jeff Walker asks whether it can still pass its MOT.

JARGON BUSTERS

- **ASCII**—An acronym, created in the early years of computing, which is meaningless about the only universal format recognized by any text handling software.
- **Bit maps**—A raster word created by characters and graphics by plotting a series of bits. Although most Postscript printers use it instead of dots, as one of their problems, that term is usually applied to physical input printers which use pins and a ribbon to create the image.
- **Bit-bit graphics**—Images which use 24 bits of memory data for each pixel. Although not a standard on any Amiga, 24-bit display cards are available, so it means software which can create or manipulate images in this color resolution.

JARGON BUSTERS

PageSettler is a program that has matured well with age. Launched seven years ago when the only Amiga you could buy was the £1000 and cost almost as many pounds, the first version of PageSettler was, to be frank, awful.

It supported only dot-mapped fonts, no printed pictures (except jaggs, even on high-resolution systems). If you wanted something better you had to buy TrueType's other DTP package, Professional Page, which at the time could only output to Postscript printers.

Three years later, in 1989, we saw the release of PageSettler 3. This was no ordinary upgrade, this was a full-on, non-PostScript, mainstream-only version of Professional Page 1.0. It supported something called 'Compagraphics' fonts, scalable typefaces that could be printed on any printer at the highest possible resolution, and which are now the supported standard on the Amiga. PageSettler 3 looked nothing at all like the first version. It was a completely new program in everything but name. With PageSettler 3 it was easily possible to produce stunning output: professional-looking newsletters, adverts and flyers, even books and manuals.

But, you couldn't do it in colour. For that you needed Professional Page's full £1495 and PageSettler's update.

Another four years have passed, and 1993 has heralded the UK release of PageSettler 4. Again, this is no ordinary upgrade. The noticeable difference is the ability to work and print in colour, but many of the enhancements that have been made in Professional Page since 1989 have also now been made in PageSettler.

INTEGRATION

PageSettler 4 is an integrated publishing system. There are three parts to it: word processor, paint program and page make-up program.

The most important of these is PageSettler itself, the page make-up program—it is with this that you design and print your layouts. Both's editor and

finder to type in will text in a dedicated word processor, and its editor and finder to paint or add pictures in a dedicated paint program. The both types of programs are separated windows, not locked to PageSettler, which enables you to switch and graphics from PageSettler to the relevant editors, and back again, without having to quit PageSettler, and without having to load the separate programs and re-evaluate data files yourself.

Sure, the Amiga is a multitasking machine and you could run any word processor or paint program at the same time as PageSettler, provided you have the memory. But, the advantage of this tight system is that PageSettler 'takes' directly in the editors, you can click in some text in PageSettler and send it straight to the word processor without the need to export and import and provide a filename. It's the same for dot-mapped graphics—they get sent straight to the paint program, where you can edit them and send them straight back to PageSettler.

You might be asking why there have to be three separate programs. Why can't a single program do all three jobs? The answer is memory. Join of three programs together and it's never run on a standard 1M6 Amiga. Split it into logical departments and it's



The Output PostScript interpreter allows you to make the whole output (text, fonts, graphics, tables, etc.) into a single file (Postscript) and print it on a laser printer.

PageMaker 5.0 (1990) by Aldus Inc. - 100 Pages



One dog and her woman



Just a year ago you would have had to update an IBM or more to be able to produce output like this. Now you can do it for under £40.

ALTERNATIVELY...

PageMaker is not presented as an isolated professional publishing system like PageMaker in Professional Page. For this reason, it is a standalone tool for use on a PC and a version for Windows and Macintosh.

with only a little memory, can use the whole system, although not necessarily all parts of the system at the same time.

Basically, hotlinking is less memory-hungry, and a faster and more user-friendly way of dealing with data than continually having to export from the main program, load an editor, import, edit, export, and import back into the main program. Professional Page and PageMaker have had this hotlinking capability for a while. Now PageMaker can do it.

WORDS AND PICTURES

The PageMaker word processor - AE, for Article Editor - is a slightly full-down editor of TextWriter. It comes with a dictionary for checking spelling, and it has absolutely all the features expected of a full-blown word processor except the ability to print, this you do from PageMaker.

If you prefer to use another word processor, PageMaker is able to import files created by Quicken, Microsoft, Publisher, Scribble, TextDraw, and WordPerfect. Text styles in documents created with these word processors will get imported correctly - something missing, written in Quicken for example, will import as italic into

PageMaker. If your favourite word processor isn't on the list, then you simply save it as ASCII and import it as ASCII.

The ASCII standard doesn't support text styles, but there is a whole bunch of special formatting codes that can be placed in text documents in order to change styles, sizes, boldness, margins, indents, and so on and so forth. If your word processor supports macros it is a simple job to set up your word processor to use PageMaker's formatting codes on special hotkeys. While this system of coding may take a while to get used to, embedding these codes in your documents before importing will save you the bother of having to go through the red in the power page make-up program changing styles and spacings. Of course, you don't have to embed these codes, you can do it the hard way if you really want to.

The paint program - GE, for Graphics Editor - is not as impressive as the Article Editor. It works in Lefthand (320 by 200), Hifish (240 by 288) and Hifish Interlaced (640 by 512), and overcomes versions of each, and supports the maximum number of colours allowed in each of these screen modes. It will not import HREF graphics.

The drawing tools provided are good enough for

moderately good, freehand, filled and unfilled boxes, filled and unfilled ellipses, a number of preset circles and squares for drawing, a fill tool, a text tool that uses leading, kerning, the ability to cut out a custom rectangle to brush, and a magnifying tool. Simple graphics could be created with GE, but you're better off creating them with some powerful paint package like Deluxe Paint, and only using GE if, after importing the picture into PageMaker, you decide to make some small changes to it.

The instructions for the Graphics Editor take up 14 pages of the 170-page manual, and largely consist of long paragraphs informing you that the flow toolbars below, the Line tool shows lines, the Stamp menu item sends your work, and so on, which will give you an idea of how simplistic GE is.

PASTE-UP

More than half of the manual is rightly dedicated to the page make-up program, PageMaker. It would not be unfair to say that PageMaker is a more powerful page make-up program than was Professional Page 1.2 in fact, the only slightly less powerful than Professional Page 2.0 which was released barely one year ago.

You'd be wrong to think that the inexpensive price of PageMaker means that 'magical' can't do that much. The seamless powerful DTP packages for the PC that cost 10 times as much.

You have full control over page design. Text and graphics are imported into bounding boxes, and these bounding boxes can be resized freely and placed anywhere on the page you like. Text boxes can be linked so that words can flow from one column to another and from one page to another. There is a built-in text editor should any minor changes need to be made to the text, which saves you having to go into the Article Editor to alter every word, for



The Article Editor is a word editor. Select the text you want to edit, including most words at the top in the current box and select from the AE, and choose the Article Editor option. Once in AE you can edit away, and even check spelling, after which you send the text back to PageMaker.



Another clip can be imported and displayed full screen. You can save a window to show on-screen, or, substituting the other Windows palette to show when a clip has been loaded and positioned.

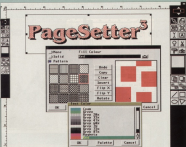


The Graphics Editor is simple, but often useful for small jobs. Click on the window, select the Graphics Editor option, and full automatically loads and imports the picture.

example. Plus magnification levels from 25% to 200% allow you to see an internal 'Workable' view of your complete layout and a magnified version so you can read text that has been set in small sizes.

Any 800 x 600 4-bit colour graphics can be imported including HiRAM and 24-bit. To conserve memory these are displayed on screen in four shades of grey when running in 16 colour mode, or as a different black-and-white image when working in 2 colour mode. Windows can be resized and cropped either by using the 'handles' around the bounding box or by changing the values in the box's properties, brought up by double-clicking on the box.

Professional 32-bit structured drawings or 'clip' can also be imported. These may be displayed as wireframe outlines for speed, or in full colour. On the A1200 and Am500 up to 256 real colours can be displayed, on older Amigas it shows only 16 real colours. Any other shades are displayed as coloured patches - obtained representations that avoid the true colour but allow you to see the differences between up to 1000 colours on screen and 256 on the screen. On standard Amigas, and even on the A500, PageSetter shows down considerably in colour mode, so you'll probably be using the more productive black-and-white display mode most of the time.



Now this is something Professional Page can do - custom algorithms for text. The colour separator allows you to define four separate colours.

Output can be sent to any Amiga professional printer, or to a Postscript device in file. Printing to dot-matrix printers is slow, but this merely is a fact of life due to there being so much data to be calculated and sent to the printer. Results, though, are excellent: printing is achieved at the highest resolution your printer is capable of, well worth the wait.

PostScript output is grey-scale only, but not colour separations, so PageSetter is not a DTP package for the professional colour publisher. Internal PostScript fonts can be used, and others can be downloaded automatically by the printing process. A utility is provided which converts Adobe Type 1 fonts into Compagraphics and Adobe Type 2 downloadable fonts. This latest version of GoldDisk's Print Manager programme does not suffer the same problems as the version distributed with Professional Page 3.0 and Professional Draw 3.0. That early version refused to convert some fonts, this one has converted everything I've thrown at it, including at those that the earlier version wouldn't.

Probably the most important feature of PageSetter is that it will run on a 1 Mbit Amiga with few flags, bringing low-cost, high-quality DTP into the range of the average home user. Obviously, you're limited as to what you can achieve with just 1 Mbit and working from floppy will mean swapping disks quite a bit, but the point is you now don't have to spend a fortune to be able to experiment with high-quality desktop publishing. An installation program is supplied that updates your Workbench disk with some new routines (kernels and devices) is effective of some excellent structured clips. Its other special installation is required. Hard disk owners are also provided with an automatic installation program.

CONCLUSION

The manual contains a single lesson to make a simple newsletter, and ends with the advice: 'Only through experimenting with the various features exposed throughout the manual will you actually acquire skill in their use.' A user need read never again!

There's a lot to take in, and the secret of success lies in discovering how to combine many separate features to produce a particular effect.

It won't turn you into a desktop publisher overnight, but it gives you the materials and machinery to learn how to do it properly at a price that won't hurt. Stepping value for money. **A**

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LIST OF USE ☒

There's a lot to take in, and the secret of success lies in discovering how to combine many separate features to produce a particular effect.

IT'S SIMPLE ☒

Supports major text types, supports PostScript output in mono, high quality output on dot-matrix printers.

EFFECTIVENESS ☒

Perfect for producing high quality colour material from sales to direct advertisements.

FLUENCY ☒

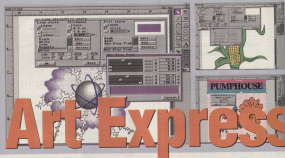
With a customised user interface and print program the software is a joy to use.

VERSATILITY ☒

Full support for the A500 system, displaying up to 256 colours on screen.

At this price it's hard to find fault with any aspect of the program.

OVERALL 91%



Is there more than one professional structured art package? Jeff Walker takes on a new expression.

At Expressions is from Soft-Logic, the company that publishes PageStream. This popular DTP program has been able to import EPS and Adobe Illustrator files for some time, and although you are able to edit Adobe Illustrator drawings that have been imported into PageStream, on-screen-color handling is not good and there is no way to save them except as PageStream documents.

Let's get the format out of the way first. By default, Art Expressions saves documents in the proprietary Postscript format. These files can be imported into any package that supports EPS, on any computer. As a test, I ran some complex Art Expressions documents through the SecondStep Professional Postscript interpreter, and they printed fine. PageStream imported and printed them fine, so did Aldusworth 2. The Postscript Import module of ProVector also imported them happily, proof enough that Art Expressions files are indeed EPS format. However, Art Expressions cannot (yet) import and display EPS files created with other packages.

IMPORT AND EXPORT

Pages, drawings, groups of drawings, or any part of a drawing can be exported in two other standard file formats: DTP or Illustrator.

DTP is a file format based on the DTP standard file structure drawings. It is a DTP file in Amiga format, exportable to Amiga standard drawings. Any Amiga package that imports structured drawings should, in a perfect world, be able to import DTP. It also, the Soft-Logic DTP products - Pro Page, Pro Drawing, PageCenter - support only Soft-Logic's old format as created by Pro Draw. (There is a good reason for this, which will become evident in a moment.)

Illustrator is a file format saved by Adobe Illustrator, the industry standard structured drawing program for the Macintosh. It's an old version of the file format, so certain structured drawing features of the latest versions of Adobe Illustrator (3.0+) like merged paths or compound objects are not supported. This will cause problems with

Top Left: Color selection and distribution is essentially similar to the Pro Draw system, using color patterns to represent live colors and color swatches.

Top Right: This was a Macintosh file customer to create text and control ways in which they can be together. Although slight variations may occur, the drawing and coloring steps in another program should be similar to steps in a drawing. This can be used to perform some of the more advanced kinds of problem files that some programs can't open or do automatically.

Importing text objects in particular, and to use the text object in the DTP format to stick to its own old format for the first Pro Draw package. Soft-Logic says that it is working on Illustrator 3.0 and format for both Art Expressions and PageStream and will switch to it in the future.

The DTP file format is itself quite limited - it doesn't support percentage fills for example, which is another reason why Soft-Logic prefers to stick to its own old format - and Soft-Logic is currently working to propose a new DTP standard that will have every feature handled by ProDraw.

Drawings can also be exported to a DTP file. This should you feel the need to import your work into a normal bitmap-programming, like Deluxe Paint, for example. It's possible to afterwards link the bitmap back into a structured drawing by using the Trace feature of the software (DTP). Only bitmap colors, but you will always sacrifice quality in doing so.

PRINTER PROBLEMS

Art Expressions handles printing via Postscript as its main output device. There is no print out as required within Art Express itself, apart from the option of specifying which part of the page to print, as required in the main page. All other settings are controlled via Windows Printer and Postscript preferences.

Postscript will be useful for printing output, but Art Expressions only gives you full control over the output to EPS, DTP, or Postscript. There is no option to print out as required within Art Express itself, apart from the option of specifying which part of the page to print, as required in the main page. All other settings are controlled via Windows Printer and Postscript preferences.

Postscript will be useful for printing output, but Art Expressions only gives you full control over the output to EPS, DTP, or Postscript. There is no option to print out as required within Art Express itself, apart from the option of specifying which part of the page to print, as required in the main page. All other settings are controlled via Windows Printer and Postscript preferences.



Another popular feature, text along a path, is only available in Amiga format. This is because the format is a standard drawing file, but it is not a standard drawing file, so it is not a standard drawing file.

Notebook

Ever wanted to scribble down something in a hurry, but didn't have a pen handy? Do you feel that doodles are useful additions to the pursuit of excellence? Does Nick Veitch give a jot?

JARGON BUSTERS

• **Structural art**— artwork which is rendered in a variety of lines and shapes, rather than in a sequence of pixels. The advantage is that resolution is only limited by the output device, and compression often achieves a rapid and easy.

• **ITV**— Interchange File Format, a standard way of storing digitised images, pioneered by Electronic Arts and adopted by Commodore and the entire Amiga family as a standard format.

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The ease of use is first, isn't it? Very difficult to learn what the software does.

VALUE FOR MONEY ☒ *********

It does have a wide structural capability, but even then that doesn't mean significantly more.

EFFECTIVENESS ☒ *********

Full you will find it a little bit more and matches together, this is a good piece of work.

FLEXIBILITY ☒ *********

It can handle imported or new, including them as separate only 4000 but.

INNOVATION ☒ *********

It's a good way of looking at a picture and how it's done. There is a lot of editing on the Amiga file of notes.

An interesting, if expensive, way to keep track of notes and pictures.

OVERALL 68%

Have you ever wished that there was an easier way to keep things? Of course you have. Everybody with a semi-sentiment brain wishes the glass metaphor, inherent in life, to be larger. They may not be able to think of a better way of doing things — but they, no-one can be perfect. Luckily though, occasionally an inspiration strikes from the business and his someone may have an idea. An idea about how everything can work out better and nobody needs to be ruled to anything. Deep in the Black Belt 40, something like this has already happened.

THE REAL THING

Just like the rest of the notebooks you can buy at the Sprint's (or Paradise if you prefer), Black Belt's structural version includes three different types of pages: Ruled, Plain or Graph. The idea is that no matter what sort of project you are undertaking, you can handle it in this one easily to use package.

Pages of different types may be added, deleted and shuffled round to your hearts content inside the software. There is even a facility to make pages with paper edges and add on the electronic equivalent of those coloured plastic index cards which used to put on their projects because they thought it made them look more professional.

Well, all this is pretty exciting, but what about the really gilly — getting words and pictures on paper?

SCRIBBLE POWER

One of the software's utilities that has been with it since the dawn of time is *Notepad*, a set of tools between a wordprocessor and something not very useful. Like *Notepad*, *Notebook* allows the user to input text using many different fonts. Text is placed in the same way as it is in *Notepad* — just click the cursor on the page and start typing.

Word wraps are not handled by the software, which makes the whole thing look a little less much like a wordprocessor. Remembering to press return at the end of every line will not suit the typesetter and at last they used to make heavy notes to let you know you were getting clumsy. It is quite difficult to add text once it has been written, so in fact you would be better off creating it in a wordprocessor first, which is suppose, defeats the object a bit.

The text can be edited quite easily on *Notebook*, but you mustn't move the cursor back and forth on another.



PRETTY PICTURES

The graphics capabilities of the software are quite impressive. In spite of the fact that only eight colours are available to you, there is a lot of flexibility provided, mainly in the way that complex shapes can be structured and manipulated.

A variety of structural drawing tools are provided, including freehand, line, curve and polygon functions, which mean you can draw almost anything. The sketch speed is quite high, much faster than recalling the screens, but this is really a trade-off with colour resolution, as only eight drawing colours are provided (although there is a different pattern range available for filled shapes).

There is no facility to import other structural drawing files, but all this is supposed to be a work-in-progress of this, this is no big loss.

All images can be imported and exported, but if you are really looking to present graphics, rather than just include them in a series of notes, you'll be much better off looking at a budgetary DTP package.

CONCLUSION

Notebook is not an essential purchase. It's the sort of thing that, were it a Macintosh application, it would be a desk accessory.

There is not a lot that it isn't useful. For team it is an excellent place to store all kinds of information, but it doesn't feel really into a more where it can be compared to other software. It would perhaps have worked a great deal better if it had employed a focus in more than just style. With a play and address database added, *Notebook* would have been a candidate for something bigger.

As it is it is just really a slightly better, out-of-the-box version of *Notepad*, and since it is a lot to more expensive, you have to wonder if it's really worth it. Essentially, *Notebook* is a good idea which has been developed in the wrong direction — a slightly less graphically ambitious package which popped up on *Notebook* would have been more use.



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THAT'S (NOT) THE WAY TO DO IT!

My Kid Pix is an art package aimed at younger users, one thought I'd come up with a child's picture by way of demonstration. Why I like to tell you that this particular masterpiece was created by a seven-year-old, but that would be a lie. Tony Clifton actually took two weeks to come up with this, eh, eh, masterpiece and is proud proud of it. Please, thing.



STAGE 1

Using three contours and the fill tool tool, I can quickly define the shape of my house, as well as the positions of all the windows and the front door. Yes, it does look like the house that used to be shown at the start of Play School. So what?



STAGE 2

Choosing the line tool and a thick brush, I took no time at all to draw in the window frames and small detail on the door. Picking up a thinner brush, I've marked the path from the door to the garden, as well as the base of the fence. Easy or what?



PICTURE THIS...

Now that you've seen Kid Pix in action courtesy of our amazing coverable demo, and read the reviews of the fantastic art package, how do you fancy getting your hands on a brand new Amiga 1000? Or better that, all four Carmen Sandiego games. (Where in Europe is Carmen Sandiego? Where in Time is Carmen Sandiego? Where in The USA is Carmen Sandiego? Where in The World is Carmen Sandiego?) courtesy of Brøderbund. All, distributors of all Brøderbund software, you can!

We've got one \$4.95 to give away to a lucky winner, and three runners up prizes of Carmen Sandiego packs. The Carmen Sandiego games are some of the most highly praised education games available for the Amiga. The basic idea is to find the character from the list by visiting various locations and solving the puzzles. Apart from being great for they also inform the player about the geography, customs and language of the country he/she is visiting.

So, what do you have to do to win? Well, sending your coverable would help for a start. We have a custom version of Kid Pix for you submitted to the front of this magazine. What we want you to do is come up with the best piece of artwork you can using all the facilities available on our coverable. Using Kid Pix's shade and colour tools in conjunction with its exclusive drawing modes, you should be able to come up with some pretty staggering stuff, and the best will take home our fabulous prizes. The worst, sadly, will have to be shown in a documentary about how computer games are stifling our children's imaginations. Grrr, not to worry.

Once you have your artwork complete, save it into a disk using the 'Save Art' option in the menu bar and send it to us, complete with your name, address, age and telephone number at this address:

I'M A BETTER ARTIST THAN THAT TOMMY DILLON BLOKE, THAT'S FOR SURE - HE'S CRAP COMPO
CU Amiga, Priory Court, 30-32 Farringham Lane,
Leroux ED11 5AG.

Closing date for all entries is 28th of April 1989 and the Editor's decision is final. No correspondence will be entered into. Employees of EMAP Images, Brøderbund Arts or Brøderbund are not allowed to enter. No way. We don't care how good you are.



STAGE 3

Sticking with a thick brush, I've put in all the straight parts for the fence, added a few lines and put in the deep blue sky. Already it's beginning to look normal, although the house sure does look like it could use a chimney.



STAGE 4

The house is in place, and by using a slightly deeper green, I can add some shadow from the fence as well as pick out some blades of grass here and there. The chimney was done by picking up a thick brush and drawing a couple of vertical stripes.



STAGE 5

The finished picture, with clouds and chimney smoke drawn using the blitter brush from the brush menu. OK, it doesn't exactly look spectacular, but it definitely takes five minutes. (Just, like, six.) Can you do better? If you can, then enter now!

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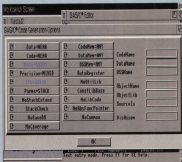
No, it's not a super secret army organization. It is, however, the latest version of the best C developer to hit our screens. John Kennedy pokes his head above the trenches.



Programmer commands to your system - all compiler options continue to set using standard Amiga options.



Here the job set of debugging. With SAS/C's CodeMaker you can single step through your program line by line.



Programming in the IDE is more power than you might suspect. This compiler lets you debug your programs with single step mode. Each project is automatically threaded the relevant code.

SAS

There was a C compiler from a company called Lattice. Many people bought this compiler, and it soon became the standard development system on the Amiga. Then Commodore's own Lattice-C for the Amiga came out.

The people at Lattice updated the program regularly, but once they had reached version 5, they decided that what they really wanted to do was not to produce C compilers for the Amiga. So, much to the annoyance of Amiga programmers everywhere, they stopped doing it and began enjoying a new lifestyle elsewhere.

However, all was not lost, as a company called SAS decided that what they really wanted out of life was to produce C compilers for the Amiga. So, they took over the Lattice C system, updated it themselves, and the result is SAS/C - version 6 of probably the best C development system in the universe.

WHY BUY PRG?

This is the question you've got to ask yourself when you see the price tags. The SAS/C system isn't cheap, and you can buy a perfectly serviceable C compiler from a PC store for a few pounds. What can possibly justify the huge difference in price?

The answer, of course, is quality. When you buy the SAS/C system, you not only get the best C compiler ever written for the Amiga, you get an entire development system of professional standard. This is how employed programmers write applications for the Amiga - there is no better way.

But first, you might be wondering how our C compiler could be better than another C compiler. After all, a compiler does nothing more than translate a file of source code into machine code using a list of rules set down by the C language. Why the best?

In fact, it turns out that the SAS/C system can translate source-code better than the other systems. Due to running on the part of SAS, the code their compiler produces will not only take up less space, but it will run significantly faster than other compilers. It is also totally ANSI compliant (i.e. it follows the recognized standard), which is very important with

JARGON BUSTERS

► **Compiler** - a piece of software which takes source code and converts it into your object code which the computer can execute.

► **ANSI** - The American National Standards Institute. Essentially a system of rules governing the implementation of the language, to ensure a degree of uniformity.

JARGON BUSTERS



C - THE LANGUAGE

C is a popular language for many reasons. It's fast, it's compact and it is available on many different computers and operating systems. Developed in the 1970s by Dennis Ritchie, C is a compiled object-oriented language that can be used to write software for many different systems. It is a powerful language that can be used to write software for many different systems. It is a powerful language that can be used to write software for many different systems.

Learning C can be a tricky business, but it's a language that you can take a look at in a few minutes. It's a language that you can take a look at in a few minutes. It's a language that you can take a look at in a few minutes. It's a language that you can take a look at in a few minutes. It's a language that you can take a look at in a few minutes.

such a commercial and theoretically portable language such as C.

Further justification for this year is contained in the other six floppy disks included in the high box. The source form the rest of the development system, of which the compiler is just a small part.

EXTRA EXTRA

SAS/C is an Amiga program through and through. If ever there was an example of a program which used every possible feature of the advanced Workbench environment and the powerful operating system, this is it.

Every feature of SAS/C is documented in the on-line Amiga/hyperhelp system. With a few clicks you can pull up screens of text explaining just what that obscure library call does, or explain an using that rather obscure aspect of the compiler. It's all there, and it's only seconds away. If you have a hard drive - as you really should have if you want to make the most of SAS/C - it's instant access to the manual. And you need drive isn't essential, and two floppy disks will suffice for the on-line storage capacity challenge, but you will need 10MB of disk, preferably 20MB to make use of the integrated environment.

It has already been proved that the Amiga's form of 'point and click' environment can increase productivity and, therefore, it's about time it was carried through to the logical application programming systems. When using SAS/C, practically the only thing you'll need to do is the going of source code. This is something which you'll only appreciate if you have tried using other C systems, which require all sorts of strange manipulations before they come out to you. Admittedly, for some of the more tricky features there is no choice - you will need to use the Shell. The Profiler will examine your code, and with all which functions are called most often, which is very useful for optimizing your own programs. A million and shared of the time it takes a loop to execute can soon mount up seconds or minutes.

DEBUG

Nothing works right first time. Even Windows, it's to unlikely an occurrence that someone assumes that you won't believe it anyway. So, you need to check out what went or didn't appear to go wrong. With a PC system your best hope is to dump the source code to a printer, sit on the floor and wade through everything with a tin and highlighter pen.

The SAS/Cassembler program makes that kind of thing paper-cupet a thing of the past. As long as you compiled your code with the 'debug' option active (in the 'make' CodeProbe will allow you to actually step through your source code line by line, as it runs. The code can be examined in original C source, or even the assembly language equivalent if you prefer. If there is a better way of learning C programming, I've yet to learn about it.

At any time you can display the contents of arrays and variables, inserting new values as you go. You can even step through the code running on another Amiga connected via the serial ports.

SCRIPTS

Scripts - what the hell's that? Don't panic - it's only another way of making your life easier. With some other versions of Lattice's compiler options were using 'included' in the command line. For example, to compile, link and optimize a file which uses a FPU, you would need to type in -O -L -Wfp -hmc -s. Needless to say, remembering which letter invoked which option was something for which valuable brain cells could have been put to better use.

Running the Scripts program brings up a requester containing every compiler option, a few ticks and a mouse click and the options are set, with no scribbling through the manual required. It's here, for example, that the debug option would be selected. It is also here that the 'Generate' option might be used. If it is used, the compiler automatically creates a header file of all the functions and variables used in the program - dead handy if your old Lattice's program wasn't really sticking to the ANSI standard. The new file can be included, and the entire thing is compiled with 'Generate' switched off.

As you would expect from such an Amiga-oriented program, Affix is made use of extensively. Although the supplied source code editor is entirely usable, you might like to stick to your personal favourite. Cognus (a VICE) is my preferred editor, and because it is also fully Amiga compatible, Life is Good. Programs can be compiled whilst still under CDS, and any errors in the source will actually be flagged inside the editor.

For users of Lattice C, the upgrade to SAS/C will be a reward after a long time getting out of the 'C' files and replacing them with 'C' files, getting used to the without QUAD, and remembering to type 'void' instead of 'float', everything should go smoothly - that is, as long as any old source code was strictly ANSI compliant.

Of course, the other advantage is that when compiled, your programs will actually run faster. To obtain an idea as to just how much faster take a look at the pretty coloured graph. I wrote a small program to generate Mandelbrot sets, and timed it after compiling with both Lattice C and SAS/C - with and without optimizations enabled. You can see that the unoptimized SAS code ran faster than the optimized Lattice version. When run was made of the special 68001 FPU library (which I could never get to work properly with Lattice), the speed-up was amazing. A comprehensive Lattice FPU program was probably never checked in at about 20 seconds, it had worked.

The new Workbench module files are supplied as standard, which means programs can be upgraded to make full use of the new features immediately. Advanced SAS/C programmers will appreciate the

Execution Speed Comparisons



A small benchmark program was written to compare the speed of code generated by the two compilers. The results show that the SAS/C compiler is faster than the Lattice compiler, and the FPU is faster than the Lattice compiler.

support for the 68001 FPU, resident code precompiled headers for greater compile speed, and the ability to create and debug devices and libraries.

CONCLUSION

If you're a SAS/C user and expect to learn how to program Deluxe Paint 3 within a week, the same fast news for you. Although the vast documentation contains over 1,000 pages detailing the programs and library functions, in evaluating detail, you won't find a programming tutorial anywhere.

The big question remains - is the SAS/C system really worth the money, especially compared with the Lattice? I would say it certainly is. In fact, it's money well spent. If you want to earn money from programming, SAS/C is an investment. It would be good news for any money programmer to spend a month with an FPU program in an attempt to discover if it is going to be the language of choice. However, since the need is to let for a decent debugging tool or a copy of the Amiga include files, you can be sure the time to consider an upgrade to SAS/C has come.

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KID PIX

Broderbund came up with digital crayons, and Electronic Arts have brought it to the Amiga. Tony Dillon spills a lot of paint.



As you can probably tell from the title, Kid Pix is an art package for children. Developed in the US by PC programmer and father of a three-year-old, Greg Holtman, the package has been designed specifically for younger users to exercise their imagination and creative skills within an environment that is appropriately and simply without being over-simplified or restrictive. It's been a big hit with American children, and now it comes to the Amiga courtesy of Electronic Arts and the nimble fingers of John Jones-Davies, the coder behind numerous programs including the up-and-coming Amiga version of Don't Touch My Dinosaur.



This display provides a few alternatives for starting from scratch, instead of the digital busy bee.

The first thing I need to point-out is that this is not an art package in the vein of Deluxe Paint. Deluxe Paint's lot of tools which you can utilize to create certain effects and other options to make your art creation less cumbersome. Kid Pix is full of tools that are designed to stimulate ideas in children, rather than help them realize pre-defined images. By way of explanation, if you were drawing a picture in Deluxe Paint, you would select brushes and tools when you had an idea of what you were going to draw. With Kid Pix, the idea is that children will experiment with the variety of tools, which will hopefully spark an idea which they can then create.



Just some of the variety pen-instruments you can draw with, from the busy bee to the digital drawing toolbar itself.

Left: The main menu, complete with options (over the left side) and the toolbar for the current option (along the bottom).

On loading first time, you are presented with a registration screen, where first child types in his/her name. On subsequent loads the program will announce that the software belongs to that person, creating a friendly link between child and machine. Then it's on to the main screen and you're ready!

Along the left hand side is to all the options, and the bottom strip of the screen contains all the sub-options for each item. Clicking on an option, for example the brush tool, brings up a book at the bottom of the screen displaying all the brushes available. This strip can be spread over eight way marks, displayed in rotation by clicking on a scroll arrow on the right-hand edge of the strip. This is how all drawing functions are selected, using the left mouse button. The right mouse button comes into play when using the items list at the top of the screen, and as that is only used when loading, saving or altering some part of the program (like play language, preferences, etc.), the right button isn't used very often, making the program even easier to get into.

WTSWTG

The main drawing area itself is smaller than a standard screen by about 50 pixels in each direction. Although this creates a non-standard screen size,

WHO ON EARTH...?

John Jones-Davies should be a familiar name to most of you by now. His is the latest moving drawing program, perhaps John's most famous work was *Penhouse for Windows* - famous purely because it looked incredible and then never came out. John was also a contributor to the early online *Global Games*, and did primary selling on the early *Freelance Magazine* and *World Championship Strategy Stealer*. Since then, he's been developing for Windows. John Jones-Davies for Windows and a member of other games. He can teach his pen development company, *Amiga* (as called because he lives and works in Maryland, New York) and is getting the finishing touches to his *Lot* for Windows, which will be available on the *Amiga* version in the next couple of months.

It does mean that the entire picture is displayed at all times, making this a true WTSWTG (What You See Is What You Get) package.

The standard options are, as ever, Freehand draw, line draw, box draw, ellipse draw, erase, undo and fill. Other options include an interesting selection of brushes, taking text, a variety of screen wipes and a plethora of pen styles, the likes of which have never been seen before. Sure, you have pens of different widths, and a selection of shades, but what about ones that simulate a leaking pen, that occasionally sports large blotches of ink onto the paper? Or a pen that leaves a jagged line, making it impossible to draw straight?

Other pen and brush types include a trail of the marks of different values, small colored dots, a trail of colors, a dot to dot pen that leaves thin-based spots on the screen rather than a line, a drippy paint brush, where the paint runs down the screen, and even a pen that creates geometric shapes - the sort of thing you used to make with a compass if you were (at unlikely enough to be expected to play with one and, by no means) never by one out how to use it properly. It takes an even finer thing, one click with the fastidious pen and you've got a complete two ready to be coloured and given foliage.

CLIP ART

For those of you who would rather paste a picture together than start one from scratch, Kid Pix contains a clip-art bank containing everything from



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10

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AMIGA CDTV ACCESSORIES



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on your DVD. His handling of driver programs is unknown. His switches for status is possible. Special settings (with moved) allow possible that away with those options under the device button. Camera complete with

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INDI PRICE

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Dragged kicking and screaming from the sand pit, Steve Prizeman looks at the current state of educational software.

BACK T

THE SHOE PEOPLE

First Class £9.99

Recently re-released as a budget title by Graphic Graphics, *The Shoe People* is based on the 'sweet sewing cartoon series' - a show I freely admit to never having heard of. It's your four to six year-olds are fans, however, and even if they're not, they are sure to enjoy this varied package of activities.

Geared towards meeting the guidelines of the new National Curriculum, *The Shoe People* contains five games and a simple drawing and colouring program. In the drawing section, kids can even save their drawings to disk, print them off your printer up to 11, if you're so inclined, or print out the selection of line drawings included for old legs (most lefty and righty style colouring in).

The games all feature Shoe People, the tramps PC host, Whistling, Baby Brother, and Sergeant Major. They help introduce kids to the basics of English: match, shapes and patterns through a series of tasks such as associating words with objects, spelling those words, differentiating between upper and lower case letters, arranging similar words in groups, and solving simple anagrams. Different levels of difficulty are available for each game, allowing a clear path of development for a child to follow.

As the game is aimed at such young children, Claver Dodge (Steve Tait's Educational Advice) makes no bones about recommending that 'grown-ups go through the games together with the kiddies in their charge. This shouldn't be too hard a task, the pleasing graphics, amusing little animations, good music and sound effects make this a highly entertaining package. The pleasantly animated software, giving excellent value for money, is an easy-to-use introduction to both computers and the basic skills necessary at infant school. *The Shoe People* - educational software with a side (Prizeman).



Don't be stupid - get spelling, Tramps!



Memory protection is required to satisfy Sergeant Major when the coloured shoes are exchanged.

PAINT POT 2

Kids' Academy £19.99

As an art package aimed specifically at children, *Paint Pot 2* may be seen as falling midway between the drawing elements of *The Shoe People* and more sophisticated art programs, like *Deluxe Paint*. Unfortunately, its price and comparatively limited range of functions prevent it both being an adequate competitor to either.

Aimed at four to ten year olds, *Paint Pot 2* allows the user to draw pictures, text, and take the short cuts offered by line, box, circle, and ellipse drawing tools. Paint Pot 2's, in fact, as much a colouring-in program as a drawing one - it comes with about 30 line drawings ready for loading and filling-in. The colouring is an easy process thanks to the fill tool which is also available. A total of 16 colours may be used to construct any particular picture, and the tones of each may be varied, allowing the potential for a far larger number of colours to be used (although still no more than 16 for each drawing, of course). The pictures can also be saved, and printed.

The main tune and sound effects are commonplace and the presentation is appealing, but this program's only real plus is its ease of use. Apart from that it has less to offer than other programs for kids.

If your child has any even vaguely serious intentions of drawing on a computer, you would be better off buying *Paint Pot 1* or *3* and spending half an hour exploring the main points to them.



For Kids' Academy stage is produced in association with Penguin Graphics, who, in fact, did the original artwork.



One of the many line drawings supplied, partially coloured in.

10 OUT OF 10 ENGLISH

10 out of 10 £25.95

Meeting the demands of the National Curriculum, whilst retaining emphasis upon the more traditional elements of English language teaching, is the aim of this game-centred package.

Usually, perhaps, this product is not aimed at a highly specific age range. Instead, it is ability-based, with the level of difficulty of the puzzles increasing with the user's score. The six games have the user in ways that will undoubtedly develop most people's literacy skills: spelling, identifying collective nouns, spotting missing words or letters, matching rhyming words, and so on, from the content of the puzzles or other. It is even possible for interrupted or teachers to enter new questions for one of the games, enabling them to customise a few steps which they consider to be the most important points for the child player to learn. The teacher accompanying the game makes it clear that the program aims to cover the long familiar elements of language teaching, including punctuation, verbs, adjectives, nouns, sound patterns and figures of speech.

The games will appeal to kids who are devotees of crosswords, and word search puzzles, rather than the usual platform fare, but quick reactions are still necessary to improve the scoring system in many of them.

Originally created and with considerable sound, the product nevertheless remains an interesting attempt to put vocabulary and grammar in a computer game context.



One of the many word, which like a sophisticated version of word memory tests knowledge is necessary to construct a full game.



One of the many word, which like a sophisticated version of word memory tests knowledge is necessary to construct a full game.

O SCHOOL PART 2

ADI JUNIOR COUNTING Europress Software £15.99

Introduced by ADI Junior, the friendly little cousin of ADI Intermediate elsewhere in the featured, this package targets the basic mathematical skills of two younger age groups – four to five-year-olds and the six to seven. The colourful story screen, through which all the aspects of the program are accessed, is actually an animated picture. Practically all the objects screen respond in one way or another when clicked or with the mouse, enticing the user further into the program by requiring them to do what will happen next.

With 15 activities for each of the age-groups this product is aimed at, ADI Junior Counting gives a pleasant introduction to the basics of adding up and taking away. Three levels of difficulty allow the child to progress through subjects like counting objects, identifying numbers by word and figures, and naming by numbers. One of the tasks, for example, involves counting the number of segments who visit a Caterpillar – if the worms and things are kept track of, an end sequence shows a knight walking round a horse watching off the lights. In another part of the program, for Junior counts increasing or decreasing, a series of sums may be undertaken against the clock.

There are, in addition, plenty of activities to be done which are unrelated to maths – star ticking game, jigsaws, and detailed faces may also prove played with. The graphics are bright and entertaining, the range of sound effects is both wide and of high quality. The voice which speaks the advice given to start when they press the Help key is exceptionally clear, albeit in a subtle American way, which is sure to help ADI Junior give the intended impression of helpful and instructive gameplay. An addition-packed program which really does make learning fun, this excellent piece of software is thoroughly recommended.



A colourful character screen like this is ADI Junior Counting.



Count the columns at this jigsaws screen, they will add to the day and reward for the jigsaws.

ADI MATHS - 11/12 YEARS Europress Software £15.99

It's common effort to introduce you to a teacher who's not only a good teacher but also a good student. As well as your computer-based friend, it's always an advantage to help you with your problems, give you advice and reward you with games, you might think they're great. Douglas Adams' Hitchhiker's Guide to the Galaxy does the same. This enthusiastic guiding does not come from the marketing department of the Sirius Cybernetics Corporation, however, but from Europress Software, and is ADI, the interactive and related character who fronts its age-appropriate series of educational programs.

Besides being your plastic pal who's fun to be with, ADI can take a short statement, posing a wide range of mathematical problems. His tasks cover key parts of the mathematical course 11 and 12 year-old children will face during that difficult first year of secondary education. Techniques of calculation, percentages, geometry combinations, symmetry, algebra, and statistics are just some of the elements included in this package, based loosely around the theme of the *Golden Wonders of the World*. The ADI series, designed in accordance with what kids learn at school, fully covers many parts of the *Mathematics Targets* established by the new National Curriculum, and certainly tells many more. These problems are not push-over and, believe me, it's a humbling experience to be reminded just how much mathematical knowledge you have forgotten since taking your O Levels (Don't worry – I did pose the Maths one at the time!) I suspect many parents who buy this program will feel similarly if they have a go themselves.

Recognising that a computer-based tutor can't

Keep you quiet (The child can't do away without ADI's aid)



Try a new angle with ADI's integrated tutor.

put fully in detention, ADI has nine different games which are made available to its pupils in proportion to the number of points they score by answering Questions correctly – a reward and stick-it approach, you might say. ADI offers an answer background only on the subjects to correct, and a notebook and calculator to help the resolution of problems. His usually encouraging verbal comments can become angry if a pupil persistently answers a question incorrectly. The Help-made could, perhaps, have been improved for such circumstances – I did not notice ADI's advice becoming progressively detailed with repeated failure on a particular question, which I would have expected.

ADI also provides a 'mini-encyclopedia' of simple animations on a miscellany of topics, which often wonder about the origin of man, both the flow of blood, planets, the food chain, and volcanoes, for example. A basic atlas of Europe is also included.

In terms of the standard of graphics and sound, ADI does not come near the potential of the larger ADI's 'wholly root', for example, is certainly an eye-opening stroke of the set produced for the 1986 by the BBC Radio/Phonograph Workshop, circa 1975. (Cautiously reluctant to listen to, watch it, or unless you want to score the top score, in terms of layout, however, each element of this can or improve on this package is clearly explained and easy to use. Overall, it is an impressive learning tool which will help children learn to learn with difficult concepts through explanation, effort, and encouragement.

80%

CDTV SOFTWARE ROUNDUP

As the availability of CDTV products increases can the same be said for the quality? This and other heart stopping questions are answered in this month's reviews.



SHERLOCK HOLMES CONSULTING DETECTIVE



See Sherlock Holmes in your guide to interactive software as you attempt to solve mysterious puzzles from the past.

Silicon Systems, Price: \$39.99, Tel: 081 369 1111

Sherlock Holmes Consulting Detective (SHCD) isn't new, it's what can only be described as a great CDTV title. It features everything that the CDTV is capable of, but which previous software companies have failed to utilize. Impressive graphics, both still frames and moving, quality sound, great story line and lots of interaction are all included here. This is the best attempt I've yet seen at producing an interactive, multimedia title.

None of the separate elements really stands out, although the CDCL pictures are good, but what makes it such a winner is that it's all strung together in a convincing manner, with the switching between different types of data done in an authentic manner. Most products of this type, whilst doing much the same thing, have very clearly defined borders for the different types of data being shown or heard. For example, when a CDCL clip is shown in other applications, it's all too common for the screen to be cleared, everything is wiped and the pictures just dumped to the screen. In SHCD the previous screen is kept up, and a projection screen gently scrolls up to show the picture. A subtle effect more, but one noticed throughout the game and one which produces an atmosphere of a single multimedia application, rather

than a collection of different media thrown together.

The low down on SHCD is that you wander around 19th century London solving or attempting to solve cases. On playing the game a picture of a book appears, complete with a pretty old fashioned cover, and prominently written inside that it is a 'table of contents' that gives you a list of three stories to solve - The Wilton's Curse, The Case of the Mutilated Murderess and The Case of the Tin Soldier. Moving the mouse over one of these titles and clicking it takes you to that particular case.

On selecting a particular case, the page turns to reveal a page with various tools (or resources) to enable you to figure out and solve the chosen case. The edges of the page are surrounded by icons, an icon for each resource. By clicking on one of these you can move around a map of London to see cinema-like video (some of this later) of interviews with suspects, etc. text case studies, background information, newspapers or black notes on the case or points of interest.

Each of these tools reveals different types of information. These are all displayed in the centre of the track in a pretty authentic manner, thus the 'map' icon brings up a simulated notebook, whilst the 'travel' icon displays CDCL moving pictures. These are worth seeing. On

clicking on the icon a slide projector-type screen scrolls up, upon which the pictures are shown. At the bottom of this screen are slide-style buttons for 'forward', 'back', 'stop', etc. The moving pictures are all very well drawn, possibly the best I've seen. Furthermore the narration that goes with them is very well done. In scenes where Sherlock and Watson are talking the voices are dubbed to match their mouth movement. The overall effect is very convincing, you can almost believe you're watching a video! Something that few other CDTV products have yet achieved.

Once you believe you've solved a case you can move to the 'trial' section. If you have not yet amassed enough clues you are returned to the main screen to find more. For each solution you carry out you achieve a set number of points. If you have successfully solved the case, difficult in itself, you must then try to beat Holmes' score!

SHCD is the first game that effectively shows off the capabilities of the CDTV. With its mix of full motion video, quality graphics and detailed sound it's bound to be a hit and may even set a few CDTVs off its back. Whilst not being the much talked about 'killer application', it is the best CDTV game yet and I have no problem in recommending it to CDTV and Amiga owners.



ARE ND-UP

CASINO GAMES

Team Software,
Paines: £39.95,
Tel: 0163175178287.

Casino Games is a compilation of three different types of gambling pastimes: poker, fruit machines, and roulette. I could never understand the point of doing this kind of game, particularly single player versions. Because the only reason anyone gets any enjoyment from a gambling is the chance to win loads of cash. In that light, these games are about as pointless as a joystick without a fire button, and only marginally more entertaining.

The most graphic of the three games is the fruit machine. You are presented with a representation of a typical one-armed bandit complete with art. The basic idea is to get three similar symbols on the same line in order to win—but as you can't actually win anything, why bother? There is no real element of skill involved in this game. It is all down to pure luck. I could see some point in it if there was some thing needed, but all you do is press the button to start the standard spinning.

Next up is poker. This is a conversion of the arcade machine version rather than the Casino table game, so instead of holding a betting war with someone, you simply have to choose one of the highlighted hands, and then gamble for more money by playing high and low. This is done by you being shown a card and then having to guess whether the next card is higher or lower.

The final game in this sad package is roulette. You'll have thought that with all the graphical capabilities of the CDTV an after they could have at least made the ball behave realistically. Instead, this one follows a perfect circle around the spinner, only to suddenly stop in a hole.

The presentation is very simple—basic flat backgrounds and boxes to serve with little, flat. Yet, for some reason, there are all manner of unnecessary pauses both when loading games and during play. As for the sound, well, frankly enough, it isn't sampled, so instead of all the exciting bells and whistles that could have been used, you have to put up with flat-rate buzz tracks and little beeps. This does nothing more than dampen a very dull set of games. I don't want to advocate gambling as a hobby but you'd be better off going down to your local arcade and spending your £50 there—at least there's a chance to increase your winnings. Is this really what multimedias is all about? I don't think so.

41c



GUY SPY AND THE CRYSTALS OF ARMAGEDDON

Entertainment International,
Paines: £39.95,
Tel: 0228 841136.

Steve Paine was rightly impressed with Guy Spy, giving it a whopping great 50% in its floppy incarnation. It wasn't perfect, but it was the most playable cartoon adventure yet. Now it comes to the CDTV, exactly the same as the Amiga version but without the loading times, if you didn't know. Guy Spy was Realsoft's attempt at proper controls, rather than the 'sated-a-move-and-wait-to-see-if-you-get-it-right' system of things used in the Dragon's Lair series.

To be fair, in that respect they did get it right with Guy Spy. Yes, he moved when you moved the joystick, and you did have a fair amount of control over his actions, but when you're moving that size of graphics, things tend to get a little slow, and there feel like problems. Take the first scene, for example. You are in a train station in



Berlin, and Guy is stood in the foreground with armed assassins in the background. They move quickly, but you don't. Consequently, it isn't very easy to avoid their bullets and it's very hard to hit them with yours.

Needless to say, the graphics and animation are stunning, over 1500 frames at full count, and the soundtrack is booming and atmospheric. It's the most playable Realsoft game to date, but it still lacks the full game play to make it a real hit.

72c



PREY

Kirk Marano Multimedia,
Price: £39.99,
Tel: +4486181607.

From the moment you load *Prey*, you're assaulted by a blinding array of digitised graphics and sound shilling at a meeting pace. The game is an 'stealth-style' story, where you are searching a moon base which has been gassed by aliens. Initially your aim is to rescue survivors, but as the game unfolds, a more sinister scenario evolves.

The game is viewed from inside your helmet, with the outside world viewed in 3D, but only in the four main compass directions, as in *Star's Fate* or *Command Mission*. It's all done in gloriously gloomy shades, creating a dark and claustrophobic atmosphere broken up every now and again by a radio message, sent to you by a German doctor speaking English in an American accent, dropping in the odd four letter word here and there.

The problem is the huge data loading times. You begin against the clock, as you are only given 60 seconds of oxygen at the start of the game. The radio message at the start tells you there is a room in the medic centre that has more oxygen, and it is marked on your map. Then the clock starts ticking. It takes about 50 seconds to walk to the medic centre. Fine, but it takes 30 to load the map and then return to the game. What are you supposed to do, guess it?

On the bottom line, it could have been a very funny game, but in the end it just becomes frustrating.

CDP



THE CONNOISSEUR

Lescelles Productions, Price:
£34.99,
Tel: 01664687688.

Dear old dear, is this really what the CD information revolution is all about? The *Connoisseur* doesn't exactly how to use the very basic elements of multimedia and create an exceptionally bulky package. Not that it isn't informative, it just looks like it was put together in an afternoon. At short one. One that starts with a long lurid and ends with everyone laughing at long because there is nothing else to do.

The package is entitled *The Fine Art Collection*, which should give you some idea of what the package is about. Yes, if you're lucky enough to have either a CDTV or an A&E3 CD-ROM drive, then you too can enjoy over 400 works of art from the comfort of your living room.

I don't know about you, and although I have spent the odd afternoon browsing through galleries I wouldn't class myself as an expert, but part of the joy of viewing a painting is seeing the clarity of brushstrokes, gazing at techniques and generally enjoying the colour and shading. What you get is a 15 foot by six foot painting, onto a 14 inch monitor. The effect is lost somewhat. When the same painting has obviously been scanned from a more top-of-the-line photograph, and in some cases even encased with an art package, the

best is completely gone. You might as well get hold of a large hard-back book from your local library.

The *Connoisseur* comes complete with a full database on the hundreds of so artists represented within the package, including everything you didn't want to know. Each picture has some sort of documentation explaining why the picture was painted and what it's about. The works are also loosely grouped into nine different periods, including Baroque, Impressionist and Classical Greek. If you want, there are 10 pieces of music for you to listen to while you look at each art, from Mozart's *Romance* to one of Chopin's lesser known *Etudes*.

As a reference tool to be used alongside, say, a really good art catalogue, it would be ideal. As an appreciation of art, it's a waste of time. Even if you wanted the results, you could probably find all of it and more on any of those fortnightly Classical CD magazines. Tact, *Prey* tact.

41%



Contains THE HAT WAIN (32)
National Gallery, London.

Contains the above
Stair 15 16194
in 1938 and over
French Romantic



GOT A HAND-HELD?..THEN GO! AND GET THIS!



AMIGA PROFILES

Using a couple of Amiga 500s and a copy of MED, Urban Shakedown stormed the clubs and charts last year with their rave single Some Justice. Twelve months later, they're doing it all over again. Tony Horgan Investigates...

Urbane Shakedown are Gavin King and Claudio Cassiani, occasionally assisted by renowned hardcore DJ, Mickey Finn, making their own distinctive brand of violently funky rave tunes. I asked Gavin to tell me about their latest EP track, Bass Speaker.

Gavin: People expect too much of you to come out with exciting records all the time. There's too much pressure on you, so I release stuff under various names. We wanted to release an underground EP again, to get respect from the underground as well, so that they don't go "Oh, they're sold out." So we've done that, and in February we've got the follow-up to Some Justice coming out, and that's with Mickey Finn. We've saved up some ideas over the past few months to get that done, and that's going to be a real good one.

PH: So, where's Claudio?

Gavin: He's in Italia at the moment. When he's here, he's got the other computer, and we've bought a couple of extra bits as well, like a (floated) TBA 800 adapter, and we use a Zoom

URBAN SHAKEDOWN

(8000) effects processor, and that lets you cheat, making the 4-bit output from the Amiga sound like 16-bit with the right filters. That's great, because you're competing with people that go into these massive studios with superb equipment, and the quality of the sound that comes out is very good indeed. They could have an 80,000-bit sampler, and some engineer who hasn't got a clue how to use it all, and the person comes in, sits down, and they produce some record that sells about 800 copies, and the whole thing's been a total money loss.

"We never started off with that sort of money - all we had were these two computers, and that's basically all we've got now. (Just a few extra bits of kit. What we go on is the actual music that comes out. It doesn't matter what the quality of the sound is, it's a good tune, it'll shine through whatever. But you've got to compete with these people so we bought the Zoom. But I have released singles with just the two Amigas."

PH: What about your other projects?

Gavin: We're also doing another thing called Drum Ticks, which is me and Claudio again, and a singer and a keyboard player. We do the bass and rhythm, and Claudio the whole tune, and he puts key-boards over the top. We've just formed a couple of bands for the American compilation CD, called "400gen - The Sound of London Hardcore". We shirked our name to Fabulous for that one, don't ask me why. The original thing for Drum Ticks was going to be a

Urban Shakedown's "The Sound" EP was a hit about their ambition. Better than most hard-ropes around the capital lately - all men, they're the only to be the home and release records without capital. They got the

blower, more progressive house thing, but it sounded more like a hardcore tune."

PH: Some Justice had one of the best breakdowns of last year. Where did that come from?

Gavin: That was also initially from a Run DMC record originally, as you've got to give them respect for it. We do build our own beats though. I'm very much into rhythm, and because of that, as we're a lot of other people. I don't like to put long one bar of a beat through a song - it gets a bit monotonous. But we haven't made the next listening break yet, which is what everyone wants to do. But at the end of the day there's only about eight or nine breaks in the history of music that I have done it, so it's hard if you keep on working at it you can do it. Every so often I sit down and try to come up with a new break.

PH: What about other people sampling your records?

Gavin: We've got sampled all the time, and it's quite amusing, because you know that they've done it in a massive studio, but they've sampled our 4-bit tune. The kind of that never told them one is an exact copy of the start of Some Justice, using all those rhythms. I get quite chuffed when that happens.

PH: Have you had any copyright problems with samples you've used?

Gavin: No, because we copied them all out. You could take it any time and then about a third of a second later, and it's basically yours. But we took the vocal from Co Co Hoppers ("We'll love as one family"), and he earned money from it as well. He was quite happy to do that for us. You have to get vocal samples cleared, so now we're working with our own vocals. Do you want to hear some? Gavin digs out a tape featuring Hoppers, a producer spend singer with a feeling-offer after voice, rather more for those authentic club atmospheres. This could be the start of something massive, if they pull their cards right. **PH**



Gavin Cassiani (left) and Claudio Cassiani (right) with their Amiga 500s and a copy of MED.

THE GEAR

An Urban Shakedown's records are produced as an authentically mixed collection of gear. Here's the complete hardware list: two 4000 (1MB) Chip RAM cards, two FPs, one Zoom 8000 effects processor, and one Commodore member keyboard. The record is produced through Gavin's own road to 4.

AMIGA PROFILES

Many people get their software and hardware direct from mail-order firms, but the firms themselves rarely appear in magazines. This month we take a look at such a dealer, to find out exactly what does go on after you put the phone down...

Once upon a time, in a peaceful time here in the middle of Hampshire, there was a little shop. The shop was so busy that soon it became two shops, including a mail-order department. The shop sold computer equipment, and its name was, naturally enough, Evesham Micros. Now Evesham Micros is one of the country's biggest mail-order companies supplying a whole range of products for the Amiga. (Rash and PC).

Many of Evesham's products are made in an accompanying industrial unit, with a variety of production lines they manufacture and repair many Amiga peripherals such as memory boards and disk drives. Since they operate more or less a system of 'just in time' manufacturing, that is, making the units only as they are required, they are able to keep up to date with compatibility problems and turn around new designs in a matter of days.

This also means that the prices can be kept lower, as very little money is tied up in components or finished products in a warehouse somewhere, it does mean that they have to be fairly on the ball when predicting demand, but that doesn't seem to have been a problem so far.

TESTING TIMES

All the products are tested as they come off the line by a number of locally employed staff. On closer inspection they turn out to be the most extensive of various models of Amiga, subtly striped from their cousins. Custom software is written to test every product, which means that the return rate is kept low (around about 1% according to their estimates).

The AM500 is not a favourite in the testing area — the typewriter port seems out a little too easily for the operator eye to get. There is no A1000 for testing things because Evesham don't make any A1000

EVESHAM MICROS



For the Evesham range of products visit the nearest Amiga list. They can be contacted at Unit 10, St. Thomas Road, Fordingham, Dorset BH21 3EA. Telephone 01256 31010.

products yet. Since they never received enough information from Commodore prior to the launch they were unable to design any new products.

HELP

Evesham believe that unhappy customers can cause really bad PR problems. To help people with any sort of problems they have setting up or operating products bought from Evesham they provide a helpline. The helpline is kept very busy, not because there are many problems with the goods supplied, but mostly because there are a lot of people out there who for some reason think that instructions are written just for fun and not because anybody really needs to read them.

The heart of the mail-order business is the telephone room where up to 18 telephonists are constantly taking calls. Not all calls are necessarily from people definitely wishing to order Evesham products, but they do refuse to take around 400 phone a week. Using the best in automated ordering systems, the telephonists can check immediately which items are in stock — when it's working.

SIX OF ONE

If he dares to control everything possible pertaining to their business has been stretched to the marketing department. Since they are often updating their product lists, it means that the advertising they place in magazines varies from month to month. Re-designing a page with a few price changes or a couple of products more or less can't really be a problem, but then the pages have to be turned into film before they go to the printers with the rest of the magazine in which they are to appear. The trouble with this is that it is both a lengthy and expensive process. It takes quite a bit longer than just printing out a page on a normal

printer. Because the film has to be developed, then it has to be marked before being sent off. Each page of film can cost around £20.

Evesham have now got around this problem by investing their own film processing units, allowing them to run out film and send it off the same day that changes are made. If the machines are kept long enough it will work out a lot cheaper too!

On the sales side of things, Evesham see their greatest possibility shifting more towards the PC market in future. This is not because they are abandoning the Amiga, they continue to support it, but the money these days seems to be coming more and more from the PC arena. Evesham actively manufacture their own PC clones in another unit, and are managing to make a profit out of the operation (something which still failed to do this year, quite spectacularly incurring a loss of £500 million).

Whatever happens Evesham Micros seems to be a company with a future. Even should the Amiga fall by the wayside there will be other products, and they have shown their ability to serve the public well. ■

ART GALLERY

KATE BUSH

Taking pride of place in this month's Art Gallery is this striking drawing by Alan Smith of Paignton in Devon, entitled 'Kate Bush: The Ninth Wave'. Created with Deluxe Paint III, in 16-colour high-res mode, it shows the superb songstress in a characteristically dramatic pose.



1. Alan began by drawing the outline of Kate's face full screen size. The face was then picked up as a custom-tough and reduced to half size.



2. The lips were drawn on a spare page, until the correct shape was established. The mouth was then cut out and pasted onto the face.



3. Unhappy with the long line, Alan used the irregular brush to cut around the picture and paste it slightly further up the face.



4. What better to give a touch of atmosphere than some foliage? Ruffled sleeves are also added to the central figure.



5. The outstretched right arm is positioned, with care taken to ensure that it is in perspective. The body is filled out by the addition of a waistcoat.



6. Covered by a long and apparently even more ruffled sleeve, the left arm now appears.



7. With a multi-coloured background, some legs, and shading on the arm, the drawing is now complete. The legs and toes were drawn on a separate page, cut into separate pieces, and flipped and rotated to give them a different look prior to their being painted in near positions on the main picture.



Once again, the magnify mode was used to good effect for detailed work.

AXE WARRIOR Next in line is a familiar sight for the CU staff - an axe-wielding mariac. Inspired by an old cartoon, probably 'King Kull of Atlantis', this warrior was drawn by Trond Strømme of Mørked in Norway. Trond spent a week drawing this DPaint picture in 64-colour interlace mode.



1. The picture commences in straightforward fashion, with the warrior's upper body and axe sketched out in wireframe.



2. The primary spread of grey shading gives the desired result. A tiny blue was added to the colour range and the right effect was achieved.



3. The eyes are white at this stage, but don't have quite the same impact as before they return to yellow in the subsequent stages.



4. The armour is complete, but the difficult part - the axe - remains to be done. The arrow indicates the direction of the light source illuminating the figure.



5. Effective use of light and shade and different tones may be seen in the completed areas, which display clear inverse dithering.



6. Trond added a little and a smoke effect to give the impression of a materials gone burning and action. Note how well the smoke blends into the grey of the warrior.

HANNIBAL LECTER What was that about axe-wielding mariacs? Here's the mariac's mariac, Hannibal (the Cannibal) Lecter himself. The infamous villain of *Silence of the Lambs* is drawn here in DPaint IV by Gary Blackborough of Doncaster in Yorkshire. Gary used an AMO3HD, proving that despite its lack of a numeric keypad, the machine may still be put to good effect with DPaint.



1. Gary used medium-resolution and set a palette of 16 colours. The inverse video appearance of this first stage results from the unfilled rectangle tool being used to map out the area of the face. (Colours: black, eyes, and nose are drawn.)



2. The darkest parts of the face, namely around the eyes and nose, are shaded. A large round brush was used for the darkest black, whilst smaller brushes added the lighter shading.



3. To put the into the wrinkles and lines of Lecter's face, each pixel was drawn individually using the magnify mode. It takes a consuming process, especially as two hours of work had been devoted to the eyes alone by this stage.



4. The outline of the face was shaded from top to bottom, using the colours black and dark red. To lighten the shading the coloured pixels were spaced further apart. The rest of the screen was filled with (You've guessed it's) the fill tool once again and Hannibal's jaw-line shaded in.



5. The outline of the mouth was drawn with the ellipse and curve tools before the correct colouring. Its lips and fangs were added. A few rips and licks formed the finishing touches elsewhere on the picture and there you have it - after six and a half hours' continuous toil Gary completed his portrait of the world's least welcome dinner guest. Kidneys and cheese anyone?

WRITE BACK

If you have a picture you consider worthy for inclusion in the art gallery, please send it to the following positions when sending material in.

It should be suitable for this drawing, your drawing or your other stages of construction, as well as it is completed. It should be a description of how you produced the effect, the stages involved and, please state that the description is written on a sheet of paper, even if it has been included as a file on the disk.

• If your drawing is based upon the work of another artist or photographer, please include details of their name, the title of the original creation, and where you saw the copy (you were working from a book etc., for example).

• Does drawing strategy featured in the gallery will be retained by CU. If you think like your and retained please include a stamped addressed envelope (stating who should be sent to) and include a return address.

A copy of the magazine, in which your work was featured will be sent to all artists.

Send your disk to CU Gallery, Priory Court, 58-52 Hampton Lane, London SE10 5LS

PD SCENE

Showing admirable restraint from turning PD Scene into Rave Scene, Tony Horgan peruses this month's batch of cheap entertainment in the public domain.

STATE OF THE ART

demo

Unbelievable! This is just the most stunning demo I've ever seen! Believe me, you're going to look that! There's a lot of absolutely gorgeous graphics, it's about five minutes long, with a great jumping hardcore soundtrack, but the real stars of the show are the animations. Blurred video figures dance around the screen, but instead of looking like computerised stick-men, they're incredibly realistic. While they dance, they morph into polygons and back into figures, all in front of various pulsating psychedelic backgrounds.

As it goes on, new variations on the graphics are thrown in, with a really kind of sampling effect, and some water-saturated close-ups. Although it's not quite up to Jesus, it's standard on the music front, and it's a good deal shorter - it's just as impressive. This is history in the making, it does not even an essential demo to have in your collection, but it is (unfortunately, it needs at least 1 Mb of Chip RAM.

And isn't a CD32 compatible. Get her while they're hot!

Available from: Cynoside PD 85
Wynan Croft, Coventry, CV5 8AD.
Tel: 0803-008811, Disk no. 00001.
Price: £2.00 (including P+P).
Compatibility: Requires at least 1 Mb Chip RAM (not a CD32 compatible).

95c



3D DEMO II

demo

Lurking behind the most boring demo title ever is a not little number from Amnesia. Opening with a display of logos and an intro sequence, 3D Demo II soon gets into its stride with a brief early motion and a lot of colour-coded (pseudo) 3D. A smooth and very speedy facial sequence is up next - something like the graphics from Wipe remember that? But this time it's all done with dots.

Some decent fantasy artwork precedes a rotating 3D model of a sphere, followed by a sequence of 3D mathematical plots, a solid-looking of fantasy art is next, then it's an all-in-one of spinning 3D models. The models are controlled by a fairly easy-to-use star field, and the scene varies in the shape of an impressive real-time vector space sequence, which later comes under your control.

All of this is accompanied by a kind of industrial techno soundtrack, featuring samples from Iota. The soundtrack - with crossing the scene up-02. The demo takes any viewing time limits, but there's plenty of variety and pretty patterns to keep you entertained. If you fancy adding yet another rock demo to your collection that you could do worse than this.



Available from:
Cynoside PD 85
Wynan Croft,
Coventry, CV5
8AD.
Tel: 0803-008811
Price: £2.00
(including P+P).

84c

BILLY THE DRAGON

game

Oh no, not another game with a dragon in it, where you go around shooting cartoon aliens and spiders! Or, did anyone ever think of an original scenario for a shoot 'em up, like a space battle or something? Or maybe even something even more original! The aim of this game is to guide Billy through the alien-infested landscape.

So, it's a scrolling shooter, and it's written with SD32. As is usual with most SD32 creations, the controls are unimpressive and the graphics are junky, but at least it looks a bit brighter than most of them. The main trouble is that it's extremely easy - most gamers will comfortably complete it within the first few games. My basic advice is to avoid getting it as it's only really suitable for anyone under 10 years of age.

Available from: W&S, 1 Chain Lane, Newport, Isle of Wight, PO26 8GA. Tel: 0940 555 555.
Price: £2.50 (including P+P).

52c



RAGING HORMONE

animation

His Schwartz news has been absent from the PG space for a while now, but there are plenty of offers willing to take up the torch. First 'tis it: One of the best animators around at the moment, and is the name behind Raging Hormone. It's not going to leave you in fits of laughter, but the funny moments are cute, and the animation is great and cartoon.

Available from: 17 88, 1st Floor Offices, 28 Market Street, Wakefield, West Yorks, WF1 1BT. Tel: 01924 565662. Disk no. 2350. Price: £1.75 (including P+P).

80min



CONTINENTAL TECH DANCE

music demo



There mustn't be a funny old thing. You either love it or hate it, or you sleep on it.

Let's describe you to the first category. If so, you're probably already got your mitts on the sympathetic Jesus on the demo, featured in January's PG Score. Can anyone better that? This offering from A&B is the best to give it any competition.

Jesus must be like a hell-hole (2) set. Continental Tech Dance is more than an extended 12" single. The advantage is that it fits on a single disk, so you don't need two drives to use it. The music's thumping hardware of a pretty high order. Graphically, it offers suspenseful times with loads of atmospheric full-screen strobes, stylised faces, cat-suited dancers, fractal patterns, animated gummy figures, and occasional equine cars. It's all spread to the music for maximum effect, and the two come together really well. My only gripe is with the tone that, which doesn't progress much after the first couple of minutes. Still a stocking-good demo, and a must for anyone who likes it hard and fast.

Available from: Wack PD, New Exchange Buildings, Queen's Square, Middlesbrough, Cleveland TS6 1LA. Tel: 01642 248584. Price: £1.99 (including P+P).

90min



Height : 58.5ins

Weight : 84.5lbs

Bicep : 13.5ins

Thigh : 22.5ins

GLADIATORS

slide show

I can handle the American Gladiator — sitting in front of the TV in the early hours of the weekend, with a bowl of beer and plate of curry. It all seems to make sense. You know it's 100% tack, and so do they, and the Fanny can get away with that. When it comes to the British version, with Pussy Cat from Cradley, and the hair-sprayed Budger from Milton Keynes, somehow it's just not the same. But what do I know?

If you're one of the millions of viewers of the Brit version, you might like to get hold of this 3-disk slideshow, featuring digitised clips of the Gladiators, complete with vital statistics, and a horrible soundtrack.

Available from: 17 88, 1st Floor Offices, 28 Market Street, Wakefield, West Yorks, WF1 1BT. Tel: 01924 565662. Disk no. 2378A-B. Price: £5.95 (including P+P).

37A



Height : 58.4ins

Weight : 130lbs

Chest : 50ins

Bicep : 20.5ins

Thigh : 23.5ins

THE SWITCH

animation

You might remember an animation from the January issue called Wall of Britain's, an Eric Schwartz-inspired cartoon from Steve Hood. This month his offering is the rather less impressive The Switch.

It starts with a scuffling down large Gargamel which fills the screen, displaying a picture of Santa. Next, along comes a Nintendo Gameboy with arms and legs, who presses the start button on the Gameboy. Santa is then led to a nest of interference, which seems to reveal... Mental Hilarious art! This switches the term 'animation' a bit far — it's almost a three picture slideshow. Perhaps, I'm just too old to appreciate the clever juvenile humour of this one — then again, maybe not.

Available from: M&S, 1 Chain Lane, Hempsall, Isle of Wight, PO39 8GA. Tel: 01942 525 584. Price: £2.25 (including P+P).

10min



ASSASSINS

32 game compilation

The Assassins PD game compilations have been going for a while now. This one takes an alternative route to the usual collection of Atari-style and Pacman clones, bringing together 10 card games from the groovy depths of Amiga PD history. Card o' Rares, Scoop Heaven, Amiga Solitaire, Cardmaster, Kinslayer, Blackjack, Squash, Skunko and Moon, Power Power and Blue Moon are all included. Most are variations on solitaire and patience, presented with a minimum of troops. Worthwhile for card-fans, but likely to bore the pants off anyone else. Available from: Stricely PD, 11 Rock Place, St Brandon Hill, Haverhill, Bristol BS1 5BT. Tel: Price: £2.25 (including P+P).

90min



WORLD OF COMMODORE (SANITY)

demo

This demo doesn't seem to have a name, but it was Sanity's entry in last November's World of Commodore demo competition. If you've been a bit bored by demo lately, and haven't seen anything new, get a load of this. It's full of original effects that leave the competition standing. Real-time 3D rooms are sprinkled throughout, combined with sunsets and waves for some really pretty visuals. The first section has a rising in no soundtracks, which is replaced by a soundtrack before time for the second wave of Dr Who tunnels, virus dot patterns, busy mental columns, and a nice rotated bitmap routine. If technical trickery or mind-warp graphics are your thing, don't miss it. Available from: 17 Blk, 1st Floor Offices, 218 Market Street, Wokingham, West Hants, WPI 10H. Tel: 0004 566880. Disk No. 2344. Price: £11.75 (including P+P).

91c



FIGHTING WARRIORS

game

Looks familiar doesn't it? This is an unbranded Street Fighter 2 clone, and not a bad one at that. As it is show up the programmers of the Amiga 320 conversion, the looks behind Fighting Warriors has managed to match the speed of US Gold's blockbuster, and done so with AMOS! The styling's been sanitised, but there are still loads of moves, and a couple of well animated jump-stud splices. Sampled sound effects and speech are included in favour of music.

Fighting Warriors is actually a surprisingly good game. The trouble is, there's no variety, so it's about half of what the last few games. Even so, it's a cut above the rest of the games in the Public Domain at the moment.

Available from: Wack PD, New Exchange Buildings, Centre Square, Middlesbrough, Cleveland, TS1 1AA. Tel: 0642 246548. Price: £1.80 (including P+P).

14c



MONOXIDE

demo

This one from Varkis could have been a non-event, but fortunately it's been saved by an excellent soundtrack. Burned vector effects get in going, followed by a ray-traced Commodore logo, some easily mist-taken scenes, a couple of cars from a forthcoming diskgame, and a bit of plasma. Nothing too exciting there, but if you like a bit of banging techno, there's plenty of consolation in the backing tune. It's a pretty happy track with a pitch-bent bass effect that's surprisingly good if you turn it right up – bit of a shame it's not used more prominently in the tune. Time to get the upper cut... (only joking about). One to add to your demo collection if you've got a couple of quid to spare. Available from: 17 Blk, 1st Floor Offices, 218 Market Street, Wokingham, West Hants, WPI 10H. Tel: 0004 566880. Disk No. 2345. Price: £11.75 (including P+P).

91c



CAN IT

animation

Paul Tyrn's second release this month is Can It. Scene one is set in a colourful bathroom. Enter Alan Armes (stage right), heaping across the shiny tiles. Alan spouts a fly, and shoots it down with a bit from his nasal cavity. Out he goes into the garden, where for no apparent reason, he disintegrates! Am I missing something here? Even though it doesn't make much sense, the graphics are nice and cartoony, and the sound effects are pretty good.

Available from: 17 Blk, 1st Floor Offices, 218 Market Street, Wokingham, West Hants, WPI 10H. Tel: 0004 566880. Disk No. 2314. Price: £1.75 (including P+P).

14c



PD UTILITIES

Mat Broomfield looks into the deep recesses of the cupboard under the stairs and shines the spotlight on some of this month's biggest PD utilities.

VOICE COMMAND LINE INTERFACE

VOICE ACTIVATED CLI

How often have you seen someone fiddle with a machine in which a character stands in the computer? Of course, such things are only fiction, and even the most powerful systems in the world can't interpret and respond intelligently to the ordinary spoken word — yet.

For Amiga owners, the dream comes a step closer thanks to Voice CLI, a great voice recognition system which can be used to execute ordinary CLI commands (which could conceivably include simple to run applications or MPlus macros).

The program works by interpreting voice input via a sampler, and currently only works with Perfect Sound and Sound Master. To "recognize" your spoken word, it needs to compile an "average" voice map of the way that you speak that particular word. It does this by asking you to say the word three times, after which a map can be extrapolated.

Once you've taught it a word, all that remains is for you to tell it what command(s) the word rep-

resents. Unfortunately, because the program doesn't open a CLI window, any commands requiring output to the screen are useless, but as I found out, you can easily use the program to load games or various software. Once activated, the program will remain that way, listening for any further instructions until you turn it off.

Although this is by no means the most exciting implementation of such an idea, to my knowledge it's the first PD version of this sort of utility on the Amiga, and it works very effectively. If it can't handle commands such as DIR and LIST, let it's early days yet.

This is a program with great future potential for the physically disabled, or indeed people who are just incredibly lazy. I heartily encourage its further development. Great fun, and well worth a look.

Available from: PD Soft, 1 Bryant Avenue, Southampton on Sea, Essex, SS11 2TB. Tel: 0702 488903. Disk No: 9777. Price: £3.95.
Compatibility: All Amigas.
Memory: 250K.



DELITRACKER

MODULE PLAYER

In the "good old days" every boy wanted to be a pilot or a train driver when he grew up. Nowadays, this 'in' career for aspiring teenagers is a musician or DJ. Thanks to the Amiga, you can compose music of commercial quality, and this is reflected by the number of public domain music packages out there. There must be at least 20 different SoundTracker derivatives for starters!

Most people tend to move from program to program looking for the ideal one, and in the process, they end up with dozens if not hundreds of modules which are far longer complete with their "program of the week".

Of course, the easy answer is to use a module player, and there are even more of these than there are composition programs, but yet again, these replay programs are restricted to the number of different formats that they can handle, and some of them are definitely unfriendly to the operating system (DOS).

New comes DelTracker, the first module player which can replay ANY module regardless of the program it was created in. Better yet, it's completely DOS friendly, and will multi task without any problem. Because it's even APLINK compatible, you can write replay scripts which will load any number of modules, and run them in the background, perhaps whilst something else (such as a slideshow) is happening in the foreground.

The way that the program manages to be so flexible is by providing you with a "hook" that can use your favourite module player instead of its own internal routines.

The program comes with its own internal support for SoundTracker's

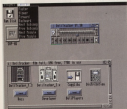
SoundTrackerV1, Noise Tracker, StarTracker and ProTracker modules. It also directly supports 20 extra external module players (which are supplied) for programs such as 2885, ComaCD and SoundBlast. It even supports the play routines of some commercial programs including SPMX, Storm and Digital Musician. Because the program has been rewritten for Workbench 3 users, there are actually two separate programs on the disc (the other one is naturally for 1.31.3 users), each of which may optionally be loaded from the CLI. In fact, because the program has been written to operate in virtually any environment (including multi-media presentations) it will almost certainly work on the Amiga 1200 and 4000, too.

Incidentally, it even supports bootstrappers. When loaded from Workbench, the program presents you with a small panel containing 20 "Player type" controls. These can be used to change the replay speed of the current song and stop from track to track (if you've loaded more than one module).

Because of the way DelTracker handles additional module players, it should never become out of date. If a new program comes along, just use its replay routine, or write your own, and the program will do the rest.

Very impressive indeed. If you've been looking for the perfect player to accompany your perfect sequencers, then look no further, you've found it!

Available from: PD Soft, 1 Bryant Avenue, Southampton on Sea, Essex, SS11 2TB. Tel: 0702 488903. Disk No: 9778. Price: £3.95.
Compatibility: All Amigas. Memory: 120K. Plus module files.



CULT TV VOL 2

MULTIMEDIA PRESENTATION

It seems that hardly a month goes by without another multi-media type program appearing in my mail bag. Of course, as long as they continue to reach the same high standards, I'll keep buying any and them.

Last month we had the American Football presentation. This month's offering is called *Cult TV Vol 2*, and as its name suggests, it's based around a number of cult television programmes; six of them to be exact! The programmes covered are *The Heights*, *Zone*, *The Team*, *The Star*, *UNGUE*, *Thunderbirds*, *The Prisoner* and *The Persuaders*.

The presentation is introduced with a selection page containing the title screens of all six series, and clicking on any of the pictures will take you to information about the chosen programme. This information is divided into two

areas: character information and episode guides. The character information section includes a nice digitised still of the selected person, along with a brief list of their performing credits. The episode guide lists every episode of the selected program, giving a brief plot summary in reader and a list of cast and other production staff. There's also background information about the shows and a brief synopsis of the series as a whole.

The entire presentation is compiled using the now familiar Hyperbook system with its mix of text and digitised stills and is nicely held together by the number of high quality limited monochrome screens.

If you are a fan of any of the included shows, this is definitely one for your collection. Available from: **NEB, 1 Chase Lane, Newport, Isle of Wight, PO20 5QA. Tel: 0883 525544. Disk Rate: £16.95. Price: £4.95 for test disks. Compatibility: Any Amiga. Memory: 512K.**

02



TRONI-CAD

COMPUTER AIDED DESIGN

Although there are a number of CAD (Computer Aided Design) packages available for the Amiga, they tend to be either very expensive or not worth the effort. *Troni-CAD*, on the other hand, has been created using *AMOS* to help circuit designers or people studying electronics to draw circuit diagrams with a minimum of effort.

It comes complete with a number of primitives — one drawn basic electrical elements (diodes, logic gates and that sort of thing) — which are then selectable and can be used to build up far more complex images. There are also a variety of additional drawing tools, such as lines and circles.

As this is merely a demo version, the same power has been disabled, but the printing functions work (although I didn't have any luck with my printer).



There are also useful cut, paste and delete features that you might expect to find in a program of this type, and these can be applied to both individual primitives or blocks. A block is a defined area of your drawing containing a number of elements. This feature is useful because it enables you to build up your own library of primitives, or even store samples components, such as entire sub-circuits.

Whilst you're working, you can select from three viewing resolutions, ranging from high to low. High is ideal to give an overview of a large project, but for any sort of practical work, low resolution is needed.

A drawing may exceed the maximum size of the screen, and if it does, simply moving the mouse to the edge of the working window is sufficient to scroll around the display.

A minimum of hints of existing is recommended, but for any sort of serious projects, you'll really want to have a couple of megs, or which at least 1Mb should be *Clipp RAM*.

The full program retails for \$60 (English France) and you can buy it directly from the program's author. If it is intended to hear from any electronics experts out there who decide to try it.) The instructions that come with this version are not worth a fight but, fortunately, the program is so easy to figure out that a child could use it.

There are a large number of example circuit diagrams on the disk, so *Troni-CAD* is definitely worth a look if you sort of thing interests you. Available from: **PD Soft, 1 Bryant Avenue, Southport on Sea, Essex, SS13 2HS. Tel: 0690 555533. Disk No: V883. Price: £3.95. Compatibility: All Amigas. Memory: 1MB.**

75



BBASE II 5.5

DATABASE

Like word processors and spreadsheets, a Database is one of those stock-in-trade computer programs which seems to be repeated in endless commercial and PD incarnations. One of the largest (and best) versions is *BBASE II* (and it's now up to version 5.5).

It's not the most sophisticated program around, nor is it the easiest to use. However, it is probably the most effective, and it offers exactly the right power-to-complexity ratio of any such program. *BBASE II* allows you to define and enter up to 400 records, and these may comprise up to nine fields. Once defined, each field may have an additional 'key' attached to it (up to 14 in all).

You can sort through a database using the arrow keys, or you can use the program's search facilities to find specific records or ranges of records. When searching, you can either look for an entry which exactly matches a given criteria, or you can define parameters within which the data must fall. For example, you could only look for names beginning with the letter 'W'.

Despite the fact that much of the code has been re-written or optimised (since earlier versions), the program has a rather slow update speed compared to commercial programs, but this is little more than a minor irritation. Test fast, but not as fast as it could be. Available from: **PD Soft, 1 Bryant Avenue, Southport on Sea, Essex, SS13 2HS. Tel: 0690 555533. Disk No: V783. Price: £3.95. Compatibility: Any Amiga. Memory: 1MB.**

75



MEMORY UPGRADE

Want to boost the power of your Amiga? Then look no further, as we've put together a sensational deal with a leading distributor to offer you a series of memory upgrades at unbeatable prices. And, if you're looking to upgrade your mouse, check out our own replacement mouse at a super low price.

BOOST YOUR MEMORY!

Upsize the hidden power of your machine with a memory upgrade. With more and more applications requiring a minimum of 1Mb of RAM, can you afford NOT to upgrade your machine's memory? Just take a look at the prices below... and then decide!

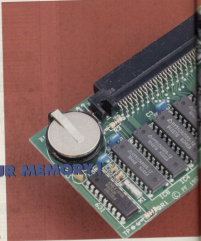
We've negotiated a series of cut-price deals on a range of top-quality memory upgrades to ensure you get the best possible value for your money. For A500 owners, there's a 512k expansion board to boost your machine up to the magic Megabyte. A500+ owners can get their hands on a 1.44Mb upgrade to expand their machine to 17.4Mb, or opt for a 1Mb board to give them a 3Mb wonder machine. For the A500, there's a 1Mb RAM upgrade complete with clock, so you'll be able to outpace your time by date.

So what's it going to cost? Not as much as you might think! Take a look at these prices:

- A500 upgrade costs only £14.95
- The 1.44Mb A500+ upgrade works out at only £17.95
- The 1Mb A500+ board costs a mere £22.95
- A500 upgrade costs just £24.95

And the best thing about the offer is that all of the above prices include FREE POSTAGE AND PACKING!

So what are you waiting for? If you have the cash of a full-price game you can transform your Amiga into a super machine. Don't delay, as in the form opposite (H&M)



MOUSE OFFER

And while we're in such a generous mood, here's your chance to upgrade your mouse. If your mouse is feeling the strain, isn't it about time you retired it to the local rag bin? This high-quality replacement mouse costs a mere £5.99 and comes with durable microswitches, a 288 dot-per-inch resolution and is switchable between the Amiga and ST. The CU Amiga mouse is much more sensitive than the Commodore one that came with your original machine, so an immediate bonus is its increased accuracy and control. The microswitches also mean it's easier to click and double click than ever before. Even the most robust mouse can't turn up its wheels and stop working, so here's the ideal low-cost replacement. Send for yours today!

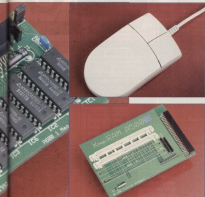
IMPORTANT!
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AMIGA

Workshop

ISSUE 4

MARCH 1993

Amiga Workshop is here to help you get the most from your Amiga. It's packed to the spine with tutorials, step-by-step guides, questions and, more importantly, answers. For the very best in Amiga info, look no further than these very pages.

149 BOOKSHELF

We've featured more books than an exhausted bookseller this month. If your Amiga interests extend beyond mowing at the small screen and you stand seriously like to read, something these reviews are for you.

153 GRAPHICS EDIT

The only point palette to come with your Amiga goes through the rings since more as Peter Lee exposed some *Warping*. This, the second in a series of tutorials, comes on file and printwork.

156 WORKSHOP TUTORIAL

In the first part of a series, Mark Brownfield takes you on a guided tour of a much neglected part of the Amiga's interface - the Workshop. This easy-to-use interface gets even easier with Mark's tips.

160 PROGRAMMING TUTORIAL

John Kennedy returns to help budding programmers learn the vagaries of the language. This month he concentrates on functions and variables.

163 QUESTIONS AND ANSWERS

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167 SOUND CHECK

Sequencing made easy. Or that's what Tony Poyser would like to see. This month he makes it happen for his sequencer manufacturers.

171 COMMS

John Ambridge explores the ways to make your Comms the best. Would you like something to be automatic, systematic, ...granted lightning?

172 CLUB CALL

In another round-up of the best in Amiga Clubs, Steve Poyser gets down and dirty as he tells the tale of his monthly parties.

175 MYTHS

The burning myth has been handed to the big fat, fat, fat, fat. After further debunking him, and lifting the gag he's just about to enough to further inform both of readers' voters without affecting the ending people. You'll have to excuse the typo on the upper though as he has a tendency to form at the mouth.

178 POINTS OF VIEW

The good (and) under the same as V5. Leland, Editor of *Amiga ST Review*. As an ST lover he tends to about the quality of the Falcon - but does he have a point?

AMIGA
WORKSHOP

BOOKSHELF

SOUND
CHECK

3P

CLUB CALL

COMMS

BOOK SHELF

Want to learn how to program? How about producing better page layouts for your newsletter? This month John Kennedy and Mat Broomfield open the covers on a few books that could be just for you.

USING ARIEXX ON THE AMIGA



ARIEXX seems to be on the tongue of nearly every Amiga user these days, with the more adventurous being greatly rewarded for their programming experiments. Supplied as standard with all new Amigas, the main drawback with ARIEXX is the lack of any sensible documentation. It certainly makes strange that Commodore went to the trouble of printing a decent manual for this waste of disk space. AmigaBASIC, and don't bother for ARIEXX.

Things have improved slightly with the launch of the A4000, as indicated at the bottom of the box is a slim manual detailing the various commands. No amount of a tutorial is made, which can only mean one thing. Ariexx must be publishing a book on it. Let's face it, Ariexx has a book set on everything - they'll be doing one called 'Using your Old Amiga Technical Writer' for fun and profit next.

Abacus have made an excellent choice with the authors for their Ariexx book. Using Ariexx on the Amiga, by Denis Camary and Nick Sullivan are the books behind Amiga Software - the name responsible for

the well respected programs Hyperbook and Transcribe. Hyperbook especially only came along after running on an Ariexx equipped Amiga, one of the books which has led to it not being as successful as it should have been.

As a programming language Ariexx has a lot going for it. It's easy to learn, it's quick and forgiving to code in and best of all it doubles up as what technos like to call an 'inter-process communication language'. This means that not only can you write programs with it, but you can also use it to control various features of other pieces of software.

The first portion of the book guides you gently into the world of programming, and answers important questions such as 'Why does Ariexx have such a stupid name?' By the time section two comes along, you are ready and waiting for a good tutorial, and that's exactly what you get. No matter if you have never written a program in your life, rest assured you'll be coding with the best of them (well, not of them anyway) by the time you finish. Every example is also supplied on the included floppy disk, so typing errors are a thing of the past. There is no better way to learn a language than loading a program, running it, changing it and watching what happens. The notes are definitely 'rock it and see'.

The module with being an inter-process communication language is that you need some processes to communicate with - in other words some Ariexx compatible application software. Section three looks at some of the more popular programs available, and demonstrates how a little Ariexx programming can expand their usefulness many times. If you happen to use Profitite, Ariak, AriPro, DayFrame, CamD or Bink & Pym it's time for a fix, you won't discover that Ariexx can be used to your distinct advantage.

The fourth and final section is an extremely comprehensive reference work. Each command is listed in

detail, complete with examples. This section alone is worth buying the book for, as it makes Commodore's own manual look decidedly stupid.

As mentioned previously, 'Using Ariexx on the Amiga' comes with a floppy disk included at the price - a very sensible idea. The disk contains every possible listing, along with some other Ariexx examples which include a very interesting Hyperbook demo containing various mistakes made in popular feature films. It's a little out of the ordinary, and makes all the difference. Very highly recommended to all who want to know what Ariexx can do, novice programmers or not.

Available from: Hilbert Books, The Old School, Greatfield, Bedford MK43 0DE. Tel: 0425 718161

THE ARIEXX COOKBOOK



Merril Callaway, the author, is responsible for the monthly Ariexx column in the American magazine Amazing Computing etc. In theory at least, he also should know what he's talking about.

Like many magazine tutorials, the style is heavily into 'history, why?' Why not? The tutorial approach is more problem solving oriented than the Ariexx book, with some interesting little puzzles provided for your enlightenment. It's obvious that Callaway is a bit of a mathematician at heart, but don't let that put you off - you won't need any qualifications to follow his logs.

Working through the first chapters with all Ariexx beside you will take several evenings, but in the end you'll be conversant with many Ariexx features, including the rather tricky topics of recursion and parsing.

Later chapters include some more useful examples, including powerful sorting routines and down-right handy programs for processing text files. Better still, things move into the sphere of application programs. This is where you might be unhappy for comprehensive tutorials for both TurboPascal and AriPro are examined

in detail. Fine if you use the programs, a little too academic to be useful if you don't. AriPro, especially, is almost dead to death, betraying the author's almost unhealthy obsession with ARIEXX in image processing packages.

The final chapter is a look at Postscript, the page description language used by the most impressive means of laser printer. It is interesting to note that Ariexx and Postscript can be used together in this way but, sadly, the number of Ariexx entries this applies to is rather small. Perhaps this section would have been better pushed onto the optional floppy disk.

The Ariexx Cookbook ends with a comprehensive index, but no reference guide. The many references to both the Commodore guide and William Hawes' own manual (the author of Ariexx) would lead me to believe that this book would be most useful if you already owned a reference guide. Go AriPro, at some.

The aforementioned floppy disk is available from the publishers, but unless you're really into the AriPro or Postscript thing this isn't really worth it. It is nice to get all the extra Ariexx Examples in and among, but some of the IPO entries included smacks a little too much of disk filling. The Ariexx Cookbook is a good companion book, but for first steps and future reference I would recommend the Ariexx book first.

Available from: Janssen Ltd, P.O. Box 358, Dartford, Kent DA1 2BR.

MAKING MUSIC ON THE AMIGA



In case you've failed to notice it, the Amiga is capable of producing some really great music thanks to its sample handling abilities. There are absolutely tons of public domain and commercial music packages out there suitable for everyone from the year-old entering nursery rhymes, to MIDI sequencing professionals working in broadcast production studios.

If you're new to the Amiga, you'll probably find the whole subject very bewildering, and even if you've been

around the book a few times, there are many areas that remain a mystery to all but the most dedicated of users.

The aim of this book is to cover as many Amiga music-related topics as possible, ranging from essential fundamentals, to understanding musical notation, then sound programming in Basic to understanding MIDI codes.

It begins by describing how a sound is actually constructed, covering both digital and analogue composition. As with the rest of the book, this section is generously illustrated and written in easily easy-to-understand language. Next, *Making Music* goes into considerable detail about how to read and understand musical notation. This is particularly good to see because it enables people with no musical talent to enjoy the pleasure of entering and playing their music. This section even delves into such advanced topics as rhythm and meter.

The section on programming music in Amiga Basic is slightly redundant as the language is no longer given space with the computer programs (such as *ARCOS* from experienced the language, in any case. Nevertheless, you may find the latter part of this section useful as it details the Amiga's sound hardware, and tells you about the audio device.

There is also an overview of many of the most popular music packages available, ranging from *ARC* and *DynamiCS* to *Basic* and *Deluxe Music*. Unfortunately, although MIDI sequencers are covered at some length, today's most popular packages (*Bliss* & *Pipes*, *Dr T* and *Music* II) are not specifically referred to.

Having briefly reviewed a number of packages, tips are given which are supposed to help you get more out of individual programs. For the most part, I found these to be little more than re-statements of sections of the manuals that come with the packages, but I suppose beginners might prefer them as a 'cheat' or 'in case of the program's most useful functions.

Regardless of your experience level, or the software that you're using, I'd be surprised if you couldn't find something of interest in the book. It's a pity the price is so high though, even in a market which seems to charge excessive prices. Available from: Hillside Books, The Owl Tower, Greenfield, Bedfordshire MK43 8SL, Tel: 0505 838131.

A GUIDE TO DESKTOP PUBLISHING ROMA: £19.95

Why go to a professional printer when the Amiga can save you both time and money by virtue of its Desk Top Publishing (DTP) software?

There are currently three main professional packages available: *PageMaker*, *Personal Publisher* and *Saxon Publisher*, although there are

also a plethora of lesser programs around.

Irrespective of the package that you choose to use, there is one thing that they all have in common - they don't teach you how to DTP! By that, I mean that they teach you how to use the program, and may even offer limited advice on-page layout, etc. but none of them go into any real detail about the *bits and bobs* of document design.

A Guide to Desktop Publishing attempts to do exactly that. The book is generic in its approach, in other words it doesn't refer to any specific software package, rather it gives such generalised advice that it is pretty much accurate whichever system you use. I thought that this approach would make the book all but useless, but in fact I found it to be surprisingly readable.

The book begins with advice aimed at people who do not yet own a DTP package, and gives suggestions about the criteria you should consider when choosing one. Sadly, because the PC and Macintosh worlds dominate this arena, the advice tends to be appropriate primarily to users of such machines.

The remainder of the book is divided into two parts. The first part details basic principles of desktop publishing, covering such topics as publishing considerations, dealing with headlines, the use of fonts, graphics, drop shadows and relations and how to avoid their misuse. It also talks about how to make your layouts more interesting, using it



variety of devices such as megalith columns, boxed quotes, lines, etc.

The latter part of the book leads you through a variety of useful examples which demonstrate creative and effective use of a DTP package no matter how limited its features may be. Again, I was surprised at how effective and pertinent the multi-format material managed to be.

The book's author, Barry Friedman, has put his money where his mouth is, for he has actually produced the book using his home computer. For the great majority of

the time, this acts as a good example of the effectiveness of his techniques.

A Guide to Desktop Publishing is very interesting to read, and visually very satisfying. A most pleasant surprise and extremely well priced.

Available from: Roma Computers, 12 Haverhill Park, Pangbourne, Berks RG8 7JH. Tel: 0754 844555.



As the observer among you may already have noticed, we have started a beginner's guide to Workbench this issue. However, if you can resist Books 1 and you're too impatient to wait for next month's issue, this latest title from Bruce Smith Books may be what you're looking for.

Computerists don't have a very good reputation as far as their manuals go, and although the ones supplied with 2.0 machines are considerably better than their early attempts, they still leave something to be desired.

Mastering Amiga Workbench 2 both re-writes the contents of the existing manual and expands upon it, filling in many of the information gaps that were left. Its coverage is very thorough, not restricting itself rigidly to the Workbench, but describing this other important area of the system as well, the start-up sequence and mouse.

It's always very difficult in a book of this nature to decide in which order to present the information, should it be literally a step-by-step catalogue of features and functions in the order that you encounter them, or should it meander through all that Workbench has to offer. The problem with the former choice is that it can seem very static, and certain aspects naturally require explanations which may fall off the point. However, the latter method, which is the one adopted by this book, can tend to obscure important information by burying it in a flurry of unimportant commentary. The real

giving to consider the way that Bruce has chosen to write this book, because I feel that that's the best choice under the circumstances, and he realised right makes things easier that they might otherwise have been.

In some ways, this book is not quite up to the standard set by others in the 1990 range. It feels as if it has been rushed out to meet a deadline, albeit with little typographical mistakes, occasionally relating syntax and other errors. I wasn't sure if this title was aimed at absolute beginners or experienced users. On one hand it gives you such basic advice as how to move a mouse across a mat (yes, honestly!), but on the other hand it sometimes uses terms and jargon which are far from self-explanatory.

Mastering Amiga Workbench 2 definitely has much more depth than the relevant Workbench, and you'll have much more pleasure and understanding from your Workbench after reading it. It also represents a valuable reference source.

I would raise one note about the cover line which claims that the book is 'Accessible to all Amiga's'. It's not. If you have a 1.3 or 1.2 machine, with the relevant Workbench, this will simply be a frustrating list of all the things you can't do.

Available from: Bruce Smith Books Limited, Amag Oak Green Business Centre, Lyt Lane, Whitby Wood, North Ayles, UK. Tel: 0900 843355.

SCIENTIFIC MANNO HOW TO USE THE AMIGA FOR SCIENTIFIC BOOKS: £19.95

As you might have guessed by its title, this one is not strictly a computer book at all, but an part of CBJ Amiga's endless efforts to keep you up-to-date with the latest innovations in science technology, one thought that you ought to know about it.

The book's cover line describes it as 'Science slightly over the edge', and that's exactly what the book is all about. It takes a tongue-in-cheek but actually look at modern day science and asks 'What does it have to offer and take it already gone too far?'

It begins by reviewing the work of organised teams in America who are trying to develop ways of freezing that relating to the femininity of humans. This remains a focal point throughout a fascinating and enlightening work. Do you want what happens if chickens spend up to six months of their lives in a cage with a man and is told 'Oh I wish we could share of being able to give new birds - or can't that matter?'

These questions and many more are answered (but not always fully) in a book that's as entertaining as it is full of controversial and thought-provoking. Because of its information intensive nature, it isn't always a light read, but it's well worth the effort. Available from: All 11 bookshops and all other good book shops.



The fill options in DPaintIV are so easy to use, you can see the effects of each fill type on the screen. The fill size and fill color can be changed on the fly. The fill size can be changed on the fly. The fill color can be changed on the fly.

When a brush has been selected, you can make this menu the primary tool. This is done by clicking on the brush icon in the menu. If you have selected a brush, you can make this menu the primary tool. This is done by clicking on the brush icon in the menu. If you have selected a brush, you can make this menu the primary tool.



Complex shadow fill

E PAINT



LOCKING

Clearly, this is the background for the fill. In the case of the fill, you have already filled the background. The function will allow you to make a menu in the screen image which has been added to the background. When this menu is selected, it is not locked. Instead of painting onto the screen by using the brush, you can paint onto the screen by using the brush. You can paint onto the screen by using the brush. You can paint onto the screen by using the brush.

Try one brush and then using it many times. In the case there are a number of public effects which can be used to make a bunch of them look different. The simplest is to flip the brush by pressing the 'x' key. Paint this down near the original fill. You can also custom brushes such as this very quickly. To increase the size press the 'y' key, and to reduce it press the 'z' key. Stamp each different sized image down near the line. Brushes can be rotated either in steps of 90 degrees (not useful for this subject), or to any angle you need. It would be nice if a few dials were leaning in opposite directions, too.



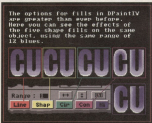
Complex shadow fill

Let's build a few items. You can call up the rotate brush (point from the brush/rotate/rotate (any angle) menu item. Your brush now rotates in a rectangular outline, and you can press the left mouse button and rotate the rotated box on screen to any angle you need. Once you're happy, just let go of the mouse button and paste the new brush on screen. Cut this out, print a few more on screen and flip it horizontally again, and paste down a few more.

TIP: DPaint gives you the wonderful opportunity to add a two-dimensional perspective to your scenes with just one keypress. If you have a brush selected, pressing the mouse key will rotate the brush's size. By using the same brush and decreasing the size, you can create a feeling of depth as you paint down into the background, with our last calling smaller and smaller the further back it goes. For reference, pressing the plus key increases the size of the brush, too.

SHARP MAGIC

Once you've cut or loaded a brush, you can mark borders with it. You can bend it in two directions to make it look like a car wheel, or shear it. Why shear? The most elegant use of shear is to let you create a long shadow of an object. Say you had an outdoor scene with a tree in the mid foreground, and the setting sun behind. Here's how to cast a realistic shadow of the tree. Cut out the tree as a brush, and flip it vertically by pressing the 'y' key. We'll use plain black as the shadow for simplicity, so select that



One of the advantages of applying a shadow to the background is that it is not locked. This means you can make changes to the background without affecting the shadow. This is a very useful feature.

Eagle
Software[illegible]

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001 341 8730

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New Southgate
London N11 1SA

[illegible]

The image displays a collection of 16 book covers from the 'Africa Budget' series, arranged in a 4x4 grid. The covers are organized into two rows of eight. The top row includes titles such as 'The Great Migration', 'The Great Migration', 'The Great Migration', 'The Great Migration', 'The Great Migration', 'The Great Migration', 'The Great Migration', and 'The Great Migration'. The bottom row includes titles such as 'The Great Migration', 'The Great Migration', 'The Great Migration', 'The Great Migration', 'The Great Migration', 'The Great Migration', 'The Great Migration', and 'The Great Migration'. Each cover features a blue background with a white silhouette of a person walking.

— 100 —

[illegible]

1998

[illegible][illegible]

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WORKBENCH TUTORIAL



If you're new to the Amiga scene, you may be a bit confused about everything. Fear not, for in the first of a beginner's series, Mat Broomfield guides you through some of the intricacies of the Workbench.

Whether you intend to do nothing more than play games, or you hope to use your Amiga in more productive ways, it's almost certain that you'll need to use the Workbench at one stage or another.

Like the Black and Decker tool of the same name, the Amiga Workbench has little value on its own, but as an accessory it represents a gateway to whole areas of activity, many of which are totally dependent on it in order to function properly. If you have a printer, you'll probably need the Workbench in order to get it working properly. If you play games, you'll use Workbench to format disk disks to store your saved games on.

But it's not on a computer, we're running before we can walk. Let's start by taking a look at some Workbench basics.

As I guide you through some of the aspects of Workbench, there will be differences according to which version of the Amiga you own. Rather than waste your time, I'll be giving tips and advice for each computer individually, and I'll begin computer

specific sections with a title icon representing your computer.



will represent any Amiga which still uses a 1.0 or 1.2 Workbench, and



will be used for machines that use Workbench 2.0 or higher.

GETTING STARTED

Switch off your Amiga at the main, and leave it turned off for at least 30 seconds. This is to ensure that computer viruses will not accidentally infect any data that you might insert in the disk drive. You can read the section on viruses for further details, but suffice to say that to viruses get away in the computer's memory if the power is off for more than 30 seconds.

Now, turn on your Amiga and insert your Workbench disk. You may hear quiet (or not so

quiet) grinding noises coming from the disk drive as the computer reads the disk. Hey to worry, this is the read/write heads being moved across the surface of the disk at great speed by a tiny motor called the 'stepper motor'.

If you own an A4000 HD, simply turn your computer on, and the Workbench will load automatically (hopefully without the grinding noises).



After a couple of minutes, a blue Workbench screen will appear. At the top of the screen you'll see a white bar containing the words 'Workbench'.



Below this bar, the Workbench will tell you the amount of free memory in your machine.



After a minute or so, loading will stop and you'll see the Keymap Selection Screen. This screen lets you specify which language your computer keyboard is configured for. In various countries throughout Europe the keys are in different positions on the keyboard, and by loading an appropriate keymap, you can ensure that the computer always produces the correct character when you press a key. For now, simply press 0 for us, then press return. After a further couple of moments, you will see the standard grey Workbench screen.

WORKBENCH HACKS

Learning about the Amiga Workbench may seem like hard work, but it's not all studying, there's a fun side too. The best example of this comes in the form of Workbench hacks - little programs which generally serve no purpose other than to provide amusement.

AMIBUG

When this program is first run, nothing appears to happen, but soon a small black bug will start crawling aimlessly around the Workbench window.

DROPSHADOW

When you run this program, you'll see a double click on its icon and suddenly every window on the screen will acquire a shadow. The depth and darkness of the shadows can be altered according to your preferences.

DRUNKEN MOUSE

If you want to imitate your friends, this hack is ideal! Simply run it on your Workbench and the screen cursor will wobble and jitter as if it's had one too many pints!

ESUOM

This one simply reverses the controls on the mouse. Move up and left and the cursor will move down and right!

LEFTY MOUSE

This one is a bit more controversial than the previous couple, but it reverses the function of the left and right mouse buttons. Ideal for left-handed users.

WAYBENCH

If you're going to leave your monitor on whilst you go for a cup of tea, there's a small danger that the Workbench (or any other disk screen) will leave indelible marks on the front of the screen (known as phosphor burn). When Workbench is selected, the Waybench screen will 'light' up as if it's made of water, thus preventing any such damage.

BOUNCEBENCH

Another screen bounce, but this time the Workbench screen 'bounces' up and down.

SCREENSHOTS

This works like the 'Screen position' option in preferences. A box appears that represents your TV or monitor.





Well, it seemed quite innovative at the time, but 1.2 looks a lot different today. You created nearly anyone of the GUI.



Version 1.2 took up features (removed window gadgets, with window editors and other stuff) but the icons are the same as in version 1.0 for better user compatibility.

At the top of the screen is a black bar containing the words "Amiga Workbench". Followed by a number and the words "graphic user". This represents the amount of graphics memory (sometimes known as chip RAM) available in your computer. There then follows another number followed by the words "later main". This figure tells you the

amount of Fast RAM in your computer.

The rest of the Workbench screen is more or less empty at this stage, although you will notice two small pictures called icons. The first of these icons is called "Halt" (for which this step is labelled "Haltbench") and then a number telling you which version of Workbench you are using.

Although these icons may appear to be very trivial, they actually represent a revolution because they are one of the elements that give the Amiga its WIMP environment. No, I'm not saying that the Amiga is a wimp! WIMP stands for Windows, Icons, Mouse and Pointers, and it's one of the features that makes the Amiga such a friendly computer to use.

PC WIMPS

PC users are currently making a big fuss about the fact that their machines have a new operating system called Windows, but Amiga owners have enjoyed this sort of system for years before since the machine was first released.

So what's so special about WIMP? Well, it means that you can achieve many things, such as loading programs, and moving information around, simply using the mouse. Because information is represented in a graphical form, you can easily relate to it and understand it without having to learn to program first.

If you've only just received or bought your Amiga, you might be thinking to yourself that it's all pretty damned confusing, isn't it? No, it really isn't that scary, but like anything new it will take you a little time to understand the way that things work.

Let's go back and take another look at those icons that we saw! The visual appearance of an icon is not important, but obviously it helps if the icon looks similar to the thing it is supposed to represent. There are two different types of icons, but the ones on the Workbench screen at the moment are known as Disk icons. If the one labelled "Workbench" represents the Workbench disk, what the other one represents the RAM disk.

By moving the pointer onto a disk icon, then double-clicking the left mouse button, you can open it to see what's inside. Let's do that now with the "Workbench" icon.

As you double-click, a box containing more icons will appear. This box is called a window, and the other icons represent the contents of the Workbench disk. We could have opened the RAM Disk icon, but as there is nothing in it (that's not an icon, there wouldn't have been much point as the window would have been empty).

Anyway, returning to the Workbench window, you'll see that although there are seven or eight icons, there only appears to be four different types.

HOW MEMORY IS MADE UP

Memory is the term given to the storage space inside a computer. There are lots of different types of memory, but two important ones are RAM and ROM. ROM stands for Read Only Memory and, as its name suggests, you can't alter it in any way. You can only read information from it. The ROM instructions that tell the Amiga how to work are stored in ROM. RAM stands for Random Access Memory and this is the type that you can use for storing data, or loading programs into.

The amount of memory (RAM) stored at the top of the Workbench screen is given in bytes. The smallest unit of memory is called a bit and there are eight bits to a byte. Since it is difficult to represent a number in the decimal system, it takes one byte of memory to store one letter of the alphabet, or one character (such as a piece of punctuation). There are 1024 bytes in a kilobyte (abbreviated to K), and 1024 kilobytes in a megabyte (MB). When the Amiga 500 first came out it had just 1 megabyte of free memory to it, but as games became increasingly sophisticated, more and more people had to use very expensive to increase their total RAM from 1 MB. With the Amiga Plus and the 4860, Commodore supplied the machines with 1 MB as standard, although many owners will use it as all their memory.

One space is also reserved in the middle, between the megabytes. A standard Amiga Plus is known to have 1 MB of memory, although in reality this figure is a little more and 800 K. Next to this, which has a much larger capacity than many disks, are some other icons in the window, although to substitute space for the word "Graphics" (I'd say more for said, a "Graphics" is 1024 Megabytes).

On screen, inside which is a small square representing the visible Amiga screen. Drag the square and the Amiga window will move. Ideal if you often lose sight of bits of your screen, or if you're using G-Point's various overview modes for video work.

BUBBLES

If you're feeling upright after a hard day's work, this one is the perfect way to relax. When it's loaded, a variety of bubbles will slowly "float" to the top of the Workbench screen. Like watching an aquarium without the fish. Or stones, or weeds, or little castles...

SMART ROCKET

Not all the tasks are so gentle. After the tranquility of Bubbles, Smart Rocket will inject a bit of excitement back into your life. This one's for all the military nuts out there as a flying missile will repeatedly hunt down your cursor, and if it hits it, bang, goodbye cursor!

KALEIDOSCOPE

Remember the Kaleidoscope that most of us saw as kids? This little your Workbench screen with a slowly changing kaleidoscopic effect.

SIMGEN

Here's another one for those of you who like the Workbench screen to look good. It places one of a selection of real background pictures on the screen to give you something to look at while you're tinkering your thoughts.

TARGET

Bring out the second spent in you with this simple task that turns the cursor into a target light and places a ring sample each time you click a mouse button.

QUICKLINS

Why strain your eyes trying to see the screen when Quicklins will magnify everything under the cursor. Supports variable levels of magnification.

POINTERZ

When the standard Workbench pointer gets too boring for you, give up your display with animated PointerZ. You can choose between a flap-

ping bird, a grinning face, a staggering doggie! or a swimming fish.



ICON TYPES

There are five different types of icons, and each represents a different type of information.



Disk icon—A disk icon represents a disk. When you insert a disk, or an icon representing that disk appears. The icon is usually stored on the disk being inserted, but if there isn't any yet, Workbench will display the default disk-shaped icon.



Drawer icon—A Drawer icon represents a drawer into which other programs or files can be placed. You can think of it as a sub-directory of a disk.



Text file—Text files are used to represent generic programs. When they are double-clicked, the associated program will be loaded. Because of this, they are an unadorned appearance for text files—although they generally have some relevance to the program that they load.

Occasionally, after double-clicking the associated program, the icon shows a program-related icon.

When programs require a certain set of instructions, it is performed before they load. Don't let me fool you; I've personally performed these, rather than the icon being to them. It usually takes time to do the icon for programs.



Project icon—A project icon represents the data information that has been created by a tool. When inserted into the Amiga package Diskette Manager will be created with the word "project" after the name. If you double-click on a Project icon, the computer will try to load the associated data, but before loading the data, it will first check to see if you have a disk in the drive of a system. If you double-click on the icon of a system that you created with a Project, the Project will be loaded and the associated data will be placed into the Project's folder for you.



Trash icon—The Trash icon simply represents an icon that is associated with a program or file that is placed. It usually is a text file icon, with the program name that is associated with the icon. It is usually a text file icon, with the program name that is associated with the icon.

Programs, which are placed in the Trash icon, will be deleted when you click "Empty Trash" from the Disk menu (the icon menu in 2.0 systems).

Icons are stored in a disk (and in memory) in the form of a general icon. It is known as an icon file. They have the same name as the program that they represent, but have the extension ".icon" appended to the end of their name.

THE VIRUS THREAT

In the animal world, a virus is a collection of cells that reproduce which are only capable of replicating themselves. In the computer world, a virus is a collection of cells that reproduce which are only capable of replicating themselves. In the computer world, a virus is a collection of cells that reproduce which are only capable of replicating themselves.

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icon as a display. In actual fact there are only three different types because the "Trash" icon is actually of the same type as the icon that looks like the trashcan. This confirms what I was saying earlier about the appearance of icons being irrelevant. Because Trash is used so frequently, somebody at Commodore presumably decided that the "Trash" icon should look a little different to all of the others so that it stands out a bit.

You can find out a lot more about the other types of icon themselves in this article. But for now, we're mainly concerned with the Drawer icons (which, unsurprisingly, look like drawers). Another name for a drawer is a directory, and it represents a sub-directory of the disk. In other words, a disk may contain many drawers, each of which may also contain information.

FLOPPY STORAGE

A disk can hold dozens, if not hundreds of separate files, and you can imagine that without some form of organization it could soon become quite frustrating trying to find any specific file. Therefore, drawers are used, either to store pieces of related information, or to store everything on a disk is related, to store information grouped according to some other criteria (alphabetically is a common one, for example).

A drawer has its information value in itself: it is mostly a storage area into which other things can be placed. But drawers are very useful for organizing your data so that you can find it again easily. Imagine if all your text files, graphics files and sound samples were all stored in the same place—what a nightmare! The other advantage is that you can

have files with the same names, as long as they are stored in different drawers. For example, you could have a "Office 87" file called "Meeting" in a drawer called "graphics" and a sound sample called "Meeting" in a drawer called "sounds".

A drawer can even be placed inside another drawer, in which case it is called a sub-directory. But means below or secondary to, so it is a directory which is secondary to the one it is inside. Another way of referring to a sub-directory, is to call it the child directory. Therefore, by inference, you could probably reach that the directory it is inside is called the parent.

When you double-click on a Drawer icon, it will open up another window to reveal the contents of the drawer in exactly the same way as the Workbench Disk icon opens a window. You can use the Workbench "Leave-Off" option on drawer icons, so they appear even when the disk itself is not opened.

NEXT MONTH

That's all we've got time for this month, but next month we'll be taking a closer look at Drawer and Disk windows, and we'll also be discovering about menus and how to format and copy disks.

C FOR BEGINNERS

What have matchboxes got to do with C?
Has John Kennedy lost his marbles?
Confused? You won't be after part four of
his award winning (*) programming tutorial.

CHUNKY CODE

Two months ago we looked at functions, and how they can be used to make your own additions to the C language, the way that by careful design and reasonably intelligent choice of names a program could be made a lot simpler to code than it might first appear.

Now breaking down into chunky bits of process is a well-regimented form of programming that can be of use on many occasions. During the design process each chunk may itself be further broken down until easily manageable blocks are left, greatly simplifying the coding. Professional programmers will tell you that the coding of a program is the easy part - it's the design that takes all the time and effort.

PLENTY OF SCOPE

Before we can look at how functions can help program design, we must first examine variables again. You will probably remember that a variable should be defined before it is used in a program, and also given a type class, be it integer, character or otherwise.

An important fact I omitted is to tell you what that when and where the variable is declared is also vitally important, as this defines its 'scope'. Think of your program as a large conference hall, with the functions that appear in it as matchboxes. If a variable is defined in the main() function, this is akin to placing a matchbox in the large conference hall - no matchboxes need be opened to get at it.

However, if a variable is defined within a function the hypothetical matchbox is placed inside a function box. To get at the matchbox, the matchbox must be opened. A variable defined inside a function is only available from within that function - other functions, including the main() function itself, cannot access it.

In TABLE 1 there is an example program which

uses two functions and some variables to illustrate the point. Don't worry - no marbles are required!

In the example, two local integer variables are defined within functions - B and C. Each can only be accessed from within the function they are defined in. For example, the variable B is not known within the function main(), and the variable C is not known within MyFunction().

Variable A is a lot special, as it has been defined outside both functions. It is what is known in the trade as a 'global' variable as it can be accessed anywhere in the following program. You can see that both functions main() and MyFunction() are able to use it.

It is tempting to use many global variables in a program, but think carefully before doing so. By allowing any function to change a variable, any accidental changes made may be very difficult to trace. Furthermore, the memory required for a global variable is not freed when the variable is no longer required, only when the entire program finishes. A variable local to a function is created and destroyed as it is needed.

The preferred way is to pass values between functions, and that is exactly what we'll be taking a look at next.

PARAMETER PASSING (1)

As you might have noticed when looking at the example programs (and I hope, when taking them into your computer) all the functions we have used have been preceded with the keyword VOID. This was to inform the compiler that the functions are not expected to return any values. All that is now about to change.

Let's invent a rather simple function whose entire purpose is existence is to return the value five. Just that, nothing fancy - just the value five. Here is how we define it (see TABLE 2).

Pretty tricky, eh? The VOID has been replaced with the INT keyword because the function does now return a value after all, and it's an integer. The RETURN keyword has been added with the value of five, because, well, five is what we want the function to return, isn't it?

From within a program, the function can be used in a number of ways. There are some examples of them in TABLE 3.

The TABLE 3 example gives you some idea as to how powerful the C language really is, as even a simple function can be used in so many ways. Try to write a few programs of your own, but most of all try to understand how a function and the value it returns can be made to do exactly what you want it to.

(*) The C/C++ Amiga 'BASIC' Tutorial written by someone called John Kennedy - award

TABLE 3

(*) Example program 3 - using a few star function's

```
int GlobalFive()
{
    return 5;
}

main()
{
    int i;

    GlobalFive();
    /* 1. Call the function on its own, ignoring
    any returned value. */

    i=GlobalFive();
    /* 2. Call a function and assign its return
    value to the local variable called 'i' */

    printf("Hey look, give me
    'hello'!\n");
    /* 3. Use the returned value immediately
    without assigning it to a variable first */

    if (i==GlobalFive()) printf("Cool man 'n'!");
    /* 4. Use the returned value in a condition
    check. Note that the value of i is not changed,
    only tested. It happens to be five from example
    2. */

    if (i<GlobalFive()) printf("I like the
    look 'n'!");
    /* 5. And only in a check made, but i is
    assigned to the value of the returned function.
    Tricky, but can be useful. Watch out for mental
    bracket overload! */

}
```

THOSE MAGIC CHARACTERS IN FULL

The printf function has a list of special options to help in text formatting and the display of numbers. Here's a list of the most popular:

- %d background
- %f foreground
- %c newline
- %s carriage return
- %t tab
- %e single slash
- %u ASCII character
- %d decimal number
- %f hexadecimal number
- %d floating point number
- %i octal number
- %G/g general percentage sign

TABLE 1

(*) Example program 1 - up scope (*)

```
int A=0;

void MyFunction()
{
    int B=0;
    printf("B has the value %d", B);
    printf("B has the value %d", B);
}

void main()
{
    int C=0;
    MyFunction();
    printf("C has the value %d", C);
    printf("C has the value %d", C);
}
```

TABLE 2

int GlobalFive()

```
{
    return 5;
}
```

Don't worry about the case when the return value is lost — as in TABLE 1 above — the value doesn't float about in limbo ready to pop back into existence and mess things up later. When the value is ignored, it's gone for good.

Here's a point in passing — unlike certain other languages I could mention, C does not allow functions to be defined within functions. This is its no way a hardship, as we shall see when discussing larger programming projects in months to come.

PARAMETER PASSING (3)

TABLE 4

```
int OneMoreThan(number)
{
    number++;
    return number;
}
```

A function becomes a great deal more useful when as well as returning a value, it can accept one, or two, or three. Or as many as you like. Achieving this is pretty straightforward, but there is definitely a magic formula involved that you'll need to remember, so let's start with another simple

example. This function returns a value one more than the number passed to it (see TABLE 4).

The second master for passing parameters into functions requires you to list them after the round brackets, but before the curly ones. The parameter then becomes a local variable in its own right, and you can use it as you like.

TABLE 4 contains an example program.

TABLE 5

Example 5 — Passing values into functions 1

```
int OneMoreThan(number)
{
    number++;
    return number;
}

main()
{
    printf("One more than that is\n");
    OneMoreThan(1);
}
```

Here we've used the returned value directly, without assigning it to anything else. Here is the main() function again, but this time using some variables.

```
main()
{
    int x;

    x=1;
    int OneMoreThan(x);
    printf("One more than that is %d\n", x);
}
```

A phenomenally important thing to remember is that the variable 'x' is not changed by using it in the function call. Only the value of 'x' — in this case, 1 — is passed into the function, and no information about where it came from. There is a method of changing the variables themselves, which is useful when you need more than one value returned from a function. It involves special C variables called pointers, but don't worry, we won't be getting to them for a while.

POINT OF NO RETURN

Of course, it isn't obligatory to return a value from a function as we already know. In TABLE 6 there's a

function that takes an integer and uses it to control the number of asterisks printed on screen.

The example also illustrates what can happen

TABLE 6

```
void stars(number)
int number;
{
    int i;
    for (i=1; i<=number; i++)
        printf("*");
}
```

if you do this, but I imagine you will end up waiting for a long time as an awful lot of stars are printed. Alternatively, usually how many stars will be printed? Hint: how is an integer stored internally?

In TABLE 7 there is another version of the program, but this time with a built-in error check.

This time the function will return without doing

anything, if the parameter is not in a suitable range.

A job more advanced function would return two values — one for when the function operated correctly, another to when something has gone wrong. Sometimes different return values are used to indicate how exactly the function failed. Such values are known as 'error codes', and the difference they can make when debugging is amazing.

MULTIPLE INPUTS

When you need to pass more than one value into a function, you list the parameters as in TABLE 8, which calculates the sum of the three input numbers.

Example program 4 (see TABLE 8) also introduces another of those magic tricks, this time 'for' which will print out an ASCII character on the screen. The ASCII character sets includes all the characters that can appear on screens, and uses a range from 0 to 255. A capital letter 'A' has a code 65, a zero has code 48 and so on.

TABLE 8

```
int SumOfThree(a,b,c)
int a,b,c;
{
    return (a+b+c);
}
```

The inputs need not be of the same type, as in this example below.

Example program 4, different types 1

```
void howbig(x)
int x;
char y;
{
    printf("The integer has a value of: %d\n", x);
    printf("The character was: %c\n", y);
}

main()
{
    int x=10;
    char h='d';
    howbig(x);
}
```

HOMEWORK

Last month I let you write a program to write — a bit snooty. The program was to make an 80 moved up and down a four storey building with a statement using functions and loops to make readability.

Here's my own solution, hopefully yours won't be too different.

1. Let's simulate a homework solution 1.
2. First define the functions used by the program 1.

```
void Going_up()
{
    printf("Function that moves a lift up a building");
}

int floor;
/* This variable is used only in this routine — it's called a LOCAL variable, and its SCOPE is limited to this function 1 */
```

```
printf("Going up — mind the doors, please\n");
for (floor=0; floor<=4; floor++)
    if (floor==0) printf("Ground floor");
    else printf("Floor: %d\n", floor);
/* End of going up function 1 */

void Going_down()
{
    printf("Function that moves a lift down a building");
}

int floor;
```

```
printf("Going down — mind the doors, please\n");
for (floor=4; floor>0; floor--)
    if (floor==4) printf("Ground floor");
    else printf("Floor: %d\n", floor);
/* End of going down function 1 */
```

```
void main()
{
    /* The program proper 1 */

    int count;
    /* count is a variable to keep count of the number of times the lift operates 1 */
```

```
printf("Lift simulation starting now\n");

for (count=1; count<=10; count++)
{
    Going_up();
    Going_down();

    printf("Lift simulation finished now\n");
}

/* End of main 1 */
```

NEXT MONTH

That's all for another instalment of this 16 month series. Hopefully now, C is beginning to look much simpler than it first seemed.

Next month John will be looking at arrays and structures, and how you can define your own variable types. If you have any comments or suggestions, please write to John Woodcock, C for Beginners, 20 Amiga, Porth Court, 30 St. Margaret Lane, Pangloss, London EC1A 3AL.



If you're having trouble using your modem or don't know how to access your Workbench, then this is the section for you. Whatever the question, Mat Broomfield has the answer (and the inflated head).

AT 300 INCOMPATIBILITIES

I have recently purchased an A1000 and I have a few questions regarding the machine:

1. A few of my software titles (such as Jimmy White's Snooker) won't work on the A1000, is it because there is no Fast RAM present, or is it just incompatibility?

2. There were compatibility problems when the A500+ was released, is it likely that we will see a ROM patch for the A1000 which will fix the problems in the same way as it did on the earlier machine?

3. The expansion capacity of the A1000 lies in two directions: with PCMCIA cards or by using the trap-door underneath. What's the difference between the two? I know that one expands the 16-bit RAM, whilst the other gives 32-bit RAM.

4. Where can I buy memory expansions from? I've noticed that 4MB PCMCIA cards can about \$280, but where is the CPU expansion that everyone refers to, and how much is it?

5. Once I've installed a bit of fast RAM, will I be able to play 1MB without having to buy a hard drive? I have heard that it can be installed into RAM, is this correct?
 (see Broom's, Stevens, here)

1. A tiny fraction of compatibility problems are caused by the lack of Fast RAM, but because the A1000 has a significantly different architecture to earlier Amigas, games which were written outside Commodore's programming guidelines (and even some that weren't) may be longer tests.

2. Referring to my previous answer, because

the new architecture of the A1000 is so different to its Amiga siblings have gone before, the chances of earlier Commodore chips ever being compatible are very low. I would say that there is unlikely to be a 2.0/2.5 ROMs either available.

3. You can upgrade RAM via the trap-door expansion, of which 1MB can be Chip RAM. The internal expansion uses 16-bit Chip RAM, the type of memory required for sound and graphics intensive operations.

Although I can find no reference to the fact that PCMCIA RAM is only 16 bits wide, you can still go to RAM on a PCMCIA card, and any memory added in this way will be treated as Fast RAM.

Because the A1000 uses a 32-bit processor, it is capable of reading and writing 32 bits of information to RAM at a time. If you use 16-bit RAM, the processor can only transfer information half as quickly, therefore your computer will be slowed down by your memory expansion.

As there may be many exciting PCMCIA peripherals (such as modems and even hard drives) released in the near future, unless a PCMCIA shaver is released, I would think carefully before committing the only slot available to a memory expansion.

4. Internal RAM expansions are now available from Taurus and Celebris, but no prices are fixed yet. As for PCMCIA RAM, WTI sell 2 and 4MB cards for \$104 and \$194 respectively. You can phone them on 0883 10 1995.

5. Most games that install to hard drive can also be temporarily installed to RAM providing you make the proper arrangements. Of course, the game will be erased each time you turn the power off, unless you are using an S-RAM PCMCIA card.

I tested Links routed at a friend's house and although the automatic installation program didn't work, I was able to perform the job manually by simply copying the required files to RAM. The game worked perfectly from RAM.

AMIGA GLOSSARY



I'm 55 years old and I have just bought an A500. I'm not well informed about Amiga, so could you please explain the meaning of the following terms: hard drive, megabyte, bit, RAM, while the difference between 1MB and 1Mb of RAM? Would you advise buying an external disk drive? Tilly?

Elyan Jones, Blandford, Dorset

A hard drive is a disk drive that has one or more high capacity disks built into it. The disks cannot be removed, and you can't add extra ones. However, they do let you load things from them in many times the size of a floppy disk. Hard drives vary in the amount of information that they can hold, but the smallest of these (a 20MB unit) holds the equivalent of 20.5 floppy disks.

Megabyte is a unit of measurement used to describe memory or disk capacity. It comes from the Latin word 'meg' meaning thousand, and 'byte', a unit of (usually) equivalent to eight bits, in actual fact, because computers measure such things in powers of two (binary), a megabyte is equivalent to 1024 bytes.

A bit is the smallest unit of memory or disk

storage capacity. It takes eight bits to store one character (a number, letter or punctuation) of information.

RAM stands for Random Access Memory, and it basically refers to the Amiga's short-term storage space. You can put things into RAM quickly, or whenever you load a program it will be automatically put into RAM. The contents of RAM are lost when you turn the power off, so it isn't anything important there, you should copy it off onto a disk first.

In the same way that you might refer to a car as a 1900 instead of using its full name of 1900cc Ford Escort, 1MB is simply an abbreviation of 1048576. Incidentally, Mb is an abbreviation of megabyte.

For most people, an external disk drive is worth its weight in gold, and I would strongly recommend buying one if you have some spare money. When you have two disk drives, operations such as copying files from one disk to another, or even copying disks, are made much easier because you can simply place one disk in each drive. Also, many games, and just about all serious programs that come on more than one disk, run on two drives. In short, two drives can save you a lot of sore heads, and will even speed up some of the things that you will want to do.

MIDI SEQUENCERS



I have been an Amiga user for quite some time, and I have recently acquired a Tascam Port 004-mk2, which is MIDI compatible. Can you please suggest some software which will enable me to play it back at my keyboard? I have been playing it back out of the keyboard (obviously without).

Do I need any other hardware?
 Robert Goodall, Dover College, Kent

There are many MIDI packages (sequencers as they are properly called), and the one you choose depends on the size of your wallet, and the sort of sophistication you are looking for.

At the lower end of the market, Sequencer One is a great 'fun' package which will let you play (that modify your music, however, it doesn't have a reasonably high timing resolution, so if you're hoping to write music for the movies, that's not it). It's suitable, but is particularly comprehensive as far as editing your music goes.

At the top end of the scale, Dr T's MIDI is a well respected professional sequencer, but (as I might, it just can't seem to take it). However, in terms of flexibility, it does seem to do it all, and then some.

Only slightly less comprehensive is there and Piers Professional. I've been using this package a lot over recent months, and although I hated it at first, its user-friendliness and flexibility have won me over.

You can play music in real-time on OUTBOARD PRO too, unfortunately, the resolution is so low that any subtle nuances, especially in terms of triplet timing, will be totally lost. Nevertheless, at only £20, it's certainly the cheapest package out there, and is extremely impressive if you only use it for step-time composing.

As for additional hardware, you'll need a MIDI interface and leads. Detail tell them what you want about £20. You can contact Detail on 0782 744750.

UPGRADE OR TRADE-UP?



After reading your article on the new A1200, I decided that it was for me. However, after sitting down and reading an article about 500, a 48600 accelerator board, I thought that investing my one-bit on an 86500 version 3, 1MB RAM and an external disk drive to A500+1200 specifications, if possible, might be a better idea.

I would like to know if it's possible to get Workbench 3 to run on an A500 and whether this option is viable—should I upgrade or trade-up? G. Williams, Buntingford

In the first place, the A500 and the A1200 are extremely different from each other, even though there may seem to be many similarities.

Probably the most significant differences between them is the fact that the A1200 incorporates the A464 (Advanced Graphics Architecture) chips which provide a whole host of new screen modes. There is simply no way that an existing A500 could be upgraded to emulate this at a reasonable price. Also, the A1200 comes with a 80000 accelerator as standard, but it's not even possible to add an 800 accelerator to the A50 at the moment.

Clearing this in mind, many of the new Workbench 3.0 features are geared to handling the new operating system and graphics modes, so even if you could run it on an A500, it wouldn't be doing all that it was designed to do. Like you, I too have been considering buying a 1200, but...and this is just my opinion—I suspect that we'll be hearing more from Commodore over the next year, so we're going to wait and see what develops.

I would suggest that there's no way you would want to invest lots of money in your current Amiga (which is basically 'old technology' now), especially if you're only going to sell it in a few months. Either buy an A1200 or wait!

PUBLISH OR BE DAMNED



I have recently completed an Amiga mag of my own and paid copies of it to my friends. They all loved it but said that it would be better if it came in colour. I've done more up-to-date software and had a 'Things to Color' column.

As I can't sign down to this stage and buy any new title that comes out, I tried to make do with the stuff that I already have. As for the 'Things to Color' column, what shall I do? Should I phone up the software companies and ask them about their ideas for games and screen shots? On the subject of screen shots, how do I do that? What software do I use to operate the facility? I am aware of the fact that I need the publisher's permission to do it, but how? As for the colour part, I can't afford to publish my mag professionally, so I want to make do with a standard B&W photocopy. B. Hedgesworth, Chesham Bois, Bucks

You've discovered the greatest problem in publishing a software magazine—getting hold of the software. As a major magazine, companies usually come to you with it, but they are likely to be reluctant to give it away to such a small concern as yours. Perhaps if you send them sample issues of your magazine they might take you seriously. Some companies like to support enterprises such as yours, and if you write and explained the situation there's a size chance that some of them may supply you with review material.

It's more likely that they will provide you

with screen-shots and perhaps even mini-reviews of their forthcoming titles, after all it's a bit of free advertising for them. I suggest that you write to some companies to find out.

As for grabbing screen shots, there are lots of public domain screen grabbers such as (Screen X) available. These will let you grab most images that load via Amiga 500 or Workbench. If you're trying to grab game screens, you'll probably need to use an Action Replay cartridge, and even this won't let you grab everything. Games which feature vector graphics, or use vector routines, or have been written in A5000 almost certainly cannot be grabbed. In C2 we use a variety of methods, but one of these is to grab the video signal in real time. Unfortunately, the equipment to do this costs a great deal of cash, and only works with an Apple Mac! Or you could use V20 or V-Lab and a second Amiga.

You can buy a colour printer for less than £200, and it doesn't take a lot of colour to brighten up a page—a headline here, a screen shot there, but it would cost much more to photograph it.

Anyway, we all wish you the best of luck with your future efforts.

D-PAINT DOESN'T PRINT



My problem sounds like a simple one but, nevertheless, it's causing a lot of headaches. I have an A500HD, on which I'm running Deluxe Paint III and a Star 42-000 colour printer.

Before printing a D-Paint image I change the background colour to white with the hope that the background will remain there on the printed version. As I press the right mouse button to get to the menu for printing, the background colour changes to tan, and that's the colour it prints.

What's puzzling is that it occasionally seems to work, i.e. the background colour stays white and prints white.

I've spent hours trying to find out how it happens, and trying to duplicate the effect but to no avail. I hope that you can save an old man's sanity by solving this problem. If not, could you please let me how to contact the people from D-Paint? Lee W. Carney, Buntingford, Devon

I have to start by saying that I'm extremely surprised that the printing problems you're experiencing are caused in the way that you describe. Let me explain why.

In 32 colour screen mode, the Amiga only has a single set of 32 colours with which to display all screen images, including menus. When you are using D-Paint, the colours of the paint tools, etc. change as you alter the colours in your palette. Similarly, it's even possible to colour menus which make it impossible to see the paint tools at all. Now this can be bad enough, but obviously it would be ridiculous if, due to palette changes you've made, you couldn't see the menus to save or print your pictures. For this reason, when you press the right mouse button to select the menu, D-Paint temporarily reverts certain colours in the palette to its own defaults, which allows you to read the menu clearly.

In 16 colour mode, the colours of the palette are arranged in four groups of eight colours. Counting from left to right and top to bottom, colours 1, 2, 3, 4, 5, 6 and 70 are all red. However, 8 is colour two which turns tan (and seems to control the backgrounds in your case). Although the screen colours have

changed, D-Paint still 'remembers' what colour those registers should really be, and this is proven by the fact that when you release the right mouse button, the screen reverts to its previous colour, as specified by you. If this is what happens, then it would seem to me that your copy of D-Paint is not at fault, and it's the way that you are using the program that is the problem (unless your printer is selectively colour blind).

Nevertheless, a temporary solution to your problem is never to fill your backgrounds using colour 2.

I would suggest that the more likely cause of your trouble is the fact that you are actually mixing the screen with a colour which may appear to be white, but which is actually a very pale shade of yellow. As the printer amplifies the intensity of pale colours when printed, this may be the only time that you become aware of the problem.

Before printing, make sure that the cursor is on the main screen then press P to call up the palette register. Now look at colour 1 and look at the 70th colour. All menu colours should be set to 10 (as high as they will go). If they're not, move them there then click OK and go and print as normal. Hopefully this will solve your problem, but if it doesn't you can contact Electronic Arts (D-Paint's publisher) on 0793 144443.

CONFUSING TERMS



After reading your December issue, I have a few questions to put to you.

What do the following acronyms stand for: PAL, HAM, HAM-1, NTSC, IFY, SAM, SHFT? It is possible to add an accelerator to my A500 so that I can play King Commander, as is that only viable on an A500? Pete Jewell, Chislehurst, Essex

PAL stands for Phase Alternation Line system, and it describes the display system used in European television.

HAM stands for Hold and Modify, a special graphics mode on the Amiga whereby the colours of adjacent pixels on the screen are calculated by 'treating' (building) two of the three 655 registers of each pixel and modifying the third. This allows you to have 256 colours on the screen at once, but can lead to colour distortion known as 'fringing'.

HAM-1 stands for Hold and Modify Extended. It was a graphics system developed by Black Box Systems, who mysteriously stopped selling the boards for no apparent reason. It allowed you to display 256,000 colours from a palette of 16,384 on the screen at once.

NTSC stands for National Television Standards Committee, but because of its poor quality, it's sometimes jokingly said to stand for Never Tunes the Same Colour. It's the television and video standard used in America and some other countries and has less screen lines than the European PAL system.

IFF stands for Interchange File Format and it was a universal file format developed by Electronic Arts in the Amiga's earliest days. By ensuring that files conform to this standard, ensuring compatibility can be kept when loading them into software programs other than the ones that they were created for.

LHM stands for InterLeaved Hi-Map. It's a standard type of IFF screen, such as those are used in D-Paint's Photo-Point.

SHFT stands for Shift Half-Byte (sh). Tel

another screen format, this time one that gives you 54 colours by halving the brightness of the colours in the main 32-colour palette. (Change a colour in the main palette and its half-brite 'twin' also changes accordingly.)

Incidentally, as from the February issue, we have been including (among boxes in each technical review, the hope that you find them useful. There's no way, as yet, to add an advertisement to an ARIGA. Fortunately, there's no problem on your ARIGA as VGA, manufacturers an internal card. However, as Wang Commodore is slow even on an Amiga with a 68000 accelerator, I would suggest that you seriously reconsider such an expensive purchase if that is the only reason you're buying it.

DISK DUMBO

People can you tell me why some software (such as AmigaSource from Prologica) keeps the disk drive running while you have to change disks? I have always been told to make sure that the disk drive light is OFF before inserting or removing disks.

Also, who is that certain person, such as Allen Reed, will work on my cousin's R500, but not mine? Is it because he has one of Commodore's notoriously over-priced AM01 RAM-expansion? I have 1MB also.

Jan '80 M. Abbey, Stevingage, Harls

Stop! Don't have the slightest clue why some software makes you change disks with the drive light on, but I can tell you this: most of the drives my closest friends own? What is the point of Commodore telling people NOT to change disks while the light is on, if certain thoughtless software programmers force you to break the rule? Is it any wonder that we're all so confused? I think they should be strong up to their axillaries until they promise not to teach people bad habits. And don't go whining on about copy protection either. I believe the time of copy protection that can potentially damage my drive's disk, while the light is on, of having two disk drives if the software doesn't use it.

I got all wound up writing this reply that I phoned Prologica to have a reason and, to their credit, they apologized for what they considered was a stupid way of doing things and said that some of their future games would use this type of disk change. They also promised to use less drives if you have them. I think that Prologica's lie for Allen Reed. It's certainly not because of his AM01 expansion. Does he have an R500, and you don't, or vice versa? Do you have extra drives plugged in? Do you have the same revision of master board? Are your drive heads dirty? Are they out of alignment (don't know how that could happen, eh?).

PROXIMITY PROBLEMS

I have had my Amiga 500 for over a year and have been adding things to it, such as a printer, external drives, etc. At the moment I have additional external disk equipment, such as an external (plugged into other sockets around the room, but as I now need the sockets, I was going to plug into the same slot as my computer. I'm not sure if this would interfere with the computer in any way.

Can you please tell me what non-computer equipment I should not place near my computer?
S. Kani, Crease, Cheshire

Jolly good question! If, by air purifier, you're referring to an Ioniser, then I will actually have positive effects if placed near your computer. A TV or monitor produces charged ions which can dry the air excessively and can lead to headaches and sore eyes. Ionisers can counteract these effects, so go ahead.

As for things that you should not place near your computer, there are five major culprits to watch out for. You should not place anything nearby that produces a lot of humidity, such as an humidifier, irons or a paraffin or gas stove. Obviously, the damp can condense inside the computer and cause damage.

Secondly, you shouldn't have anything too near which generates strong magnetic or electrical fields. Speakers are prime offenders, but amplifiers and phones can also cause problems. Magnets, fields can damage TV sets and monitors, erase disks and may even affect the way that the computer functions in extreme cases.

If it also works noting that the computer can interfere with other electrical appliances, particularly radios and televisions. This can manifest itself as excessive channel interference, and it may even prevent you from tuning in at all.

MOODY A1200?

After reading and hearing all the hype about Commodore's new 'Super Amiga' (the A1200), I put my trusty old A500 up for sale and rushed down to Queens and bought the last A1200 left in the shop. I've since been idling in it, but I find that my new Amiga is not all that it's cracked up to be. Commodore's official launch date in February 1990, and these official machines will feature a '9000' chip, which I've been told is not present in my machine. This has made me very disappointed, and leads me to wonder if Commodore are standing themselves and their customers in the back line they did with the 500s and the 600?

I was also disappointed that Commodore left out the GXP chip and the high quality drive. They've missed out on two real opportunities to lead Alan's place hands down on all counts. I have been led to believe that because of the A1200's up-datability, there may be third party GXP chips coupled with faster CPUs (7000s, 6800s and beyond) which can be plugged in via the trap door. I have also heard that third party 1.44MB drives that are equally at home with standard and high density disks are on their way. Can you answer my queries and put my mind at rest? Steven Kelly, Liverpool

I don't know what constitutes an 'official' release, but the machine you bought was deliberately released by Commodore and wasn't a 'grey' import, so surely that's as official as it gets?

I suspect that you're worrying about the numerous rumours which are circulating about the future of Commodore's range. I think there are speculations about the arrival of a 1600, based (I suspect) on the work of the Chip Amiga, but I don't think you need worry about it in the immediate future. Some people also voiced their opinion that the A1200 and indeed the A500, were 'stop-gap' machines, released purely to quell people's demands for a new Amiga, and perhaps even to keep Commodore in contention with Alan's Palace. Whether or not this is true one can only guess, but judging from comments made by Commodore themselves, it certainly sounds as if there will be continued development and enhancements on the new range of Amigas. Whether these enhancements will be added to the A1200 and A500, or will manifest

themselves as entirely new machines (yet again) one can only guess. It's my suspicion that there will be a little bit of both.

As for the lack of a DSP (Digital Sound Processor) chip, this was one of the points that raised the most disappointment among software developers, and I think as though Commodore will be remedying this at some stage in the not too distant future.

The inclusion of a higher specification of processor and internal drive are per se more commendable points, but I feel that the inclusion of these items would have pushed the price beyond the means of the ordinary home-user that Commodore hopes to target. I seriously doubt that any of these upgrades will be available in the form of plug-in boards, although there's no reason why they should not be available as internal cards, etc.

There are already high density Amiga drives available, and there has been for a couple of years. However, I gather they didn't sell particularly well which may account for the fact that they are not well publicised.

SCREEN FUCKER

I have an R500 Plus with 1.5MB of RAM and I currently use it with colour TV. When I initially load games (such as Jaguar, K2000, etc) they are fine, but after about 15 minutes the screen begins to flicker, and this becomes increasingly pronounced as time goes by. Would a monitor solve the problem, or is the computer at fault? When can I expect to hear from you?
Stephen Sharkey, Knaresborough, North Yorks

No, don't say whether or not you were connecting your computer via a SCART lead, or simply plugging into the RF (radio) output on the TV. If you are using a SCART lead and you're sure that it's plugged in securely at both ends, then there's definitely a problem with your computer.

If you're connecting via a modulator, have you tried watching normal TV for 20 minutes or so (so as to ensure it's not the timing on the TV tubes that's at fault)? If the effect still persists, then your computer needs repairing. The fact that it occurs when playing Jaguar K2000 indicates that the problem is not due to the screen resolution, in other words you're not suffering from standard television flicker.

A monitor will not improve the situation in this case, but if you can afford one, it will greatly enhance your viewing experience. Graphics which were previously muddy and indistinct will become crystal clear. I'm very fond of the Commodore 1084D and I use two of them.

A1200 COMPATIBILITY

I've decided to trade in my trusty Amiga 500 for an A1200. Having owned my 500 for some time, I've purchased a considerable amount of hardware. I own a Technus Plus AmigaRAM 500 hat meg upgrade, a Power Computing PC8000 internal drive, a Litter L2000 colour printer and an Artisan Replay Mark II.

Could you possibly tell me if these items are compatible with the A1200?
Neil Hewitt, Slough Hill, Bristol

Your Artisan Replay will definitely not work, your RAM should certainly work and your drive and printer should be fine.

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FRIEND OR FOE?

A sequencer can be your best friend, but it can also be your worst enemy. Tony Horgan wonders whether powerful has to mean complex.

SOUND CHECK

There I was, walking down the street, mentally composing the greatest techno tune in the history of man, when I got the urge to rush home and knock it out for real. With killer beats and basslines flowing like my imagination, I hurried to get back while the music was still going round my head. Half an hour later, once all the relevant leads and little black boxes had been hooked up and plugged in, I found my acid epic had turned into the theme from Emmetote Plains, which happened to be on the Ti at the time.

What did this little episode teach me? To make all my music hardware as accessible as possible at all times (and not to leave my TV on when I 'get out'). This moment was lost, however, but at least I was only the hardware, not the software, that got in the way. Having used M20 continually for the past few years, getting to know most of its time tricks along the way, I can zip around it with ease. For a beginner, however, this can be yet another block on the creative process. As Urban Shakespeare's Gavin King commented to me recently, "You need a programmer's mentality to work in. It's true, because that's the price you have to pay for power, but I'm not convinced."

Innovation isn't just about adding more features and speeding things up, it's also about making things easier to use. Computer software and hardware is usually designed by highly intelligent and knowledgeable people, and in the

early days, software was written for users of similar intellect. After a while the designers started to realise that although not everyone was a computer genius, they still wanted to use computers - so now we've got computers controlled by menus and icons. It's got a lot better in the last 10 years, but we're still a long way from true user-friendliness.

CREATIVE BLOCKS

Creative software is one area where user-friendliness is extremely important. Macintosh's AxiM hit on a winning formula years ago with Deluxe Paint. Anyone can pick it up and doodle away, getting out all the feelings from the pen and experimenting with the menu options. So far, no-one has come close to producing the musical equivalent of DPaint. "What about Deluxe Music?" I sense you musing to yourself. That was fun for an afternoon, but it was much more of a toy, with nothing like the potential or power of DPaint.

What we need is a combination of power and a friendly interface. There have been a few attempts at this, the most recent being Sound Guy from Or Ti. This is supposed to be 'interactive fun with music'. It tends not to be about as flexible as a steel rod. If you could imagine a version of M20, with all the editing features omitted so you could just load and play songs, after the tempo (which makes all the tracks run out of time), and adjust the volumes of the tracks, you'd have some idea of what's on offer. Okay, it's no easy to use that a monkey could



Sequencer: One form of the more professional equipment available. They may have more features and/or better support, but the interface on some of the professional equipment isn't anything but user-friendly.



Here is more than just MIDI: some give extensive the power to instantly recall their favourite sounds, and some to fit in with the computer's tools.

HOBBITS AND SPACESHIPS

Do the names Pachelbel and Or Aareonite mean anything to you? They used to be regulars on the demo scene, and supplied masses of sound tracks for the Commodore crew. Now, concerned with releasing better-quality 4-channel Amiga music, they've now put together their own CD of predominantly instrumental music.

Apart from Tunes, which quotes lyrics from JRR Tolkien, the CD makes use of the kind of things you could expect to hear on the latest bob and wonder: gurgling PD dimer - spazzy chords, maddening moosies, squelchy basslines and occasional rock guitars - only more developed than you'd get from a demo. Thanks to the use of precise sample synthesis. Order your copy (£12.99 + 75p P+P) from TT 88, 1st Floor Offices, 2/8 Market Street, Ashfield, West Yorks, WF1 1DH. Tel: 0824 386043.

Sound Guy - Or Ti attempt a fashionable music making. The interface, and the musician behind it, are to be desired.





While, again, the RBCs themselves are not directly involved in iron transport, they are indirectly involved, because your body has the means of taking up iron from the blood.

STOP PRESS... 33 VOICES
16-BIT SOUND BOARD

This time it could really happen! It looks like Blue Monday's OWN STOP MUSIC SHOP might be just what indie musicians have been waiting for.

It's a Premium II synthesizer, and with a card for Arpeggio 1500s and above, with an Ar5000 voice in development, it offers 32 voices, 16-bit playback, from a library of on-board sample data. You can't use it to sample your own sounds, but this 316 instrument and drum synth that's built in are definitely not to be trifled at. There are 126 preset sounds, consisting of all your basic bells, whistles, strings and lead sounds, and as it's a proper synth, you're free to make new sounds yourself.

So far, the results with Amiga sound expansion PDA seem a lack of sufficient support. This is where DOLBY AC3 should come highest. Both here and PDA 2.0 and Superchip 1.1 can compress it as it is more an internal MIDI module. It doubled as a MIDI interface too, so it can easily be linked up to a master keyboard, or any other of MIDI gear you might have in your lab-up, including Commodore's own forthcoming 1540 sound board.

David Allen, Director, and Dr. David J. W. Simons, Department of Psychology, University of California, Los Angeles

Then there's Superjam - an admirable attempt to make the musician's life easier. It offers plenty of automatic accompaniment, but when it sounds like a demo tune from a cheap keyboard, it's never going to sequence that musician into hell.

DOI: 10.1002/for

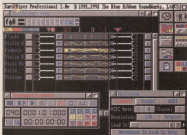
If you want instant, solid proof music making, with impressive results, you have to look to the public domain. Claudio Monteverdi's *Motet 3/3* (PD Utilities-Jan '92) is on the right track. You need to completely computerize it, and still manage to pump out some funky tunes within seconds of booting it up. In this case, it's very easy to use...and it's a lot of fun.

SIMPLICITY IN PROOF

I remember seeing a program on TV, in which Andy Warhol (the singer from *Strawberry*) was using a BOB computer to sequence some synthesizers. It looked so easy. He played a couple of bars of chords, and pressed a button on the computer, which then played the chord sequence while he played a couple of bars of bassline, followed by a melody and so on. Okay, so he'd probably spent half an hour setting it up before the session.

Have you ever tried to lay down a drum track on a pre-sequencer in real time? If your timing is tight, you can use the clock lane of a sequencer, and you

There are 17 people who are on the most immediate protection committee. And would you be willing to say who?



GOV'S TIP

This month, we've got a bonus by courtesy of Urban Sustainability Clinic that's interviewed in *Angels Profiles* this very month! Kasey's tip is: "Pick the insider into thinking there's more happening in your town than there really is. Let's say you've got a business, which Angels for a while believe the stock market owns it. If you don't have a space track for the stock, you'll lose the top of the business. This will mean taking out a few notes from the business, but the net is folded into thinking that the whole of the business is still there, if you can't have a gap after the stock, which there should be a base record, close in an extra bit of the stock record."

get away with it. If not, you'll probably look to the shop-floor editor. Shop editing should be a breeze, as it is with MIRC, but the professional consequences turn the process into an over-complicated combination of lobby issues, ticks and MIRC input.

How about including means for others used drum patterns? How many times have you puttily laid down the same high hat and bass drum lines, twisting, copying and pasting for ages, when the computer could do it for you in the blink of an eye?

When it comes to editing your song data, it's the devil's own job to try and work out what's gone on. When music updates present you with a jacking pattern of dots and bars, that's somehow supposed to represent the music you've just recorded. Now on earth are we expected to relate that mess of noise made to the sounds coming from the hardware? If you can't decipher it all, editing and sometimes it is out of the question.

Exactly, this kind of problem that makes me go back to MFC time and again — not because MFC is the most user-friendly program in the world, but simply because I can get around it without any trouble, so ideas can be tried out on the spot at the moment. It's hard enough getting used to a new piece of software, and when the alternatives are so awkward to use in the first, people are going to stick with what they know. *—* **James J. Kim, president, J&K Associates**

On the MIDI side, although MIDI is technically a scalar compared to professional sequencers, as far as I'm concerned it's still more powerful. In theory, it can't do everything a pro sequencer can, but in practice it does just about everything I need it to, and does it a damn sight quicker. In my book that's worth a lot.

Yes, I'm all for innovation. I do want to see programmers with more available tools, more precise editing screens and more features all around, but while you're at it, all you developers, why not have a go at making your programs a bit easier to use. Remember, you all might be virtuoso pianists with dozens of objects available, but even so, you'll

TONE'S TIP

Follow up for this month is... If your bassline is out of tune, or in the wrong key, it just means you're off your white track. It's a problem that could cause a lot of drama (or maybe Jesus on the line), and even a few commercial record releases. If you're only using a TI to monitor when you're composing, it's easy to lose a badly tuned line sound like through the net, but when the track is played on a decent system, it'll sound awful. If you're at all unsure, test your basslines by transposing them up or down. Then you'll definitely be able to hear whether you've got a problem. If not, features of manipulating the bassline will do sounds like, not just, basslines. If I look down on every-

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Category	Value
1. Demographics	
1.1. Age	25
1.2. Gender	Male
1.3. Education	High School
1.4. Income	\$15,000
1.5. Marital Status	Single
2. Interests	
2.1. Sports	Baseball
2.2. Music	Rock
2.3. Movies	Action
2.4. Food	Fast Food
2.5. Travel	Domestic
2.6. Technology	Smartphone
2.7. Social Media	Facebook
2.8. Gaming	Video Games
2.9. Reading	Fiction
2.10. Pets	Dogs
2.11. Gardening	Lawns
2.12. DIY	Home Improvement
2.13. Fashion	Casual
2.14. Health	Gym
2.15. Hobbies	Fishing
2.16. Volunteering	Community
2.17. Learning	Online Courses
2.18. Shopping	Online
2.19. Collecting	Stamps
2.20. Other	None

NOTES

Name: _____
 Address: _____
 City: _____
 State: _____
 Zip: _____
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 E-mail: _____
 Date: _____

MISCELLANEOUS

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MINI DEER

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 World Premiere
 The world's first
 3-D animation
 movie. It's here.
 Only at 3-D theaters.

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UK Prices: include UK postage and VAT and are effective until 28th February 1993

¹ The authors are grateful to the referees for their helpful comments and suggestions.

Prices shown will be used as they are released and are subject to manufacturer's price reviews.

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

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Hours open Monday - Friday 10am - 8pm 2010 Old Street, York

John Armitage looks at the ways in which your Comms life can not only be made a whole lot easier, it can even become completely automatic!



AUTOMATIC PILOT

BACK TO THE FUTURE

Back in the old days you could consider yourself lucky if your terminal emulator — that's the piece of software which connects your fingers and brain to your modem — had such advanced features as ASCII save and ASCII send.

The sudden availability of affordable modems led to the explosion of protocols, run BBSs, and suddenly everyone's needed slightly different, fun-to-use comms software. From the Amiga point of view, the PC and shareware systems have produced many fine programs. *Assess*, *HiComm* and *HiComm* is name-but three.

These programs, all with one thing in common — they are bristling with extra features to make the user's life easier. After all, what is the point of having the world's most advanced frame computer if the software is not a bit different as though it was written in the 1970s?

TELEPHONE BOOKS

Every comms program will automatically dial a number for you when you select a menu option. Mind you, doing this by hand isn't really much of a chore as you simply need to provide the number with the codes ATD or ATDT. The hard bit is remembering the number. The ATDT code is to inform the modem to use tone dialing, so if your local exchange has been updated to digital status then you will be able to make use of tone dialing and the resultant speed increase. ATDT for ATD for old fashioned pulse dialing will appear in a set of menus somewhere in your comms program, in the case of *HiComm*, it's available in the submenu called up by selecting *MODEM SET UP*.

In a telephone book, the comms program will also allow a useful name to be assigned to the number. From *HiComm*, after loading of the information into a miniature database, you can dial your favourite BBS simply by selecting the name from a menu.

Each number can have further information assigned to it. The Gaudier used, any special key macros, even your password can be logged along side it, ready for instant access. This means you

won't have to worry about forgetting your password, as it will be stored with your comms software. As a result, the passwords you pick can be more obscure, and more importantly, different for each system.

MACROS

The term 'macro' can have many meanings depending on context, but in this case we'll assume it means assigning a string to a single keypress. For example, if your box BBS requires you to type 'step 1' to get to the end of the message section, you might find it easier to program one of the function keys with a suitable macro. Once you do, you'll be able to hit F1, whatever and save some keyboard time.

HiComm allows each BBS number to have a different set of macro keys, so if you have a good memory you can program your system to navigate right through your BBS with only a few keypresses.

SCRIPTS

Scripts are the height of laziness when it comes to comms, and provide some of the most powerful capabilities. Several comms programs now come with a scripting language — a list of commands which control various elements of the program.

These scripts can be invoked with a menu option, or sometimes more usefully, started automatically whenever a number is dialed. The script could wait for certain text sent from the host system, and reply as necessary, for example, returning your log-in name and password.

If you think that the concept of such a scripting language sounds slightly familiar, perhaps you're right — especially if you are thinking of *Alfred*. The interprocess communication language which comes as standard with every new Amiga is itself a scripting language, and provided a program supports it, it can be used for some fairly advanced projects.

HiComm comes with a scripting language, but it also has an *Alfred* port. As you can see from the example *Alfred* program that follows, logging onto a BBS is really quite simple when you let the computer do it for you.

1 *Alfred* *HiComm* *login script* 1

2 The first line of every *Alfred* script must be a comment 1

3 address 'hostname'

4 Like every *Alfred* compatible program, *HiComm* has a port 1 2 address. The above line informs the system to talk to 1 2 *HiComm*, and not to *AdPro* or *Hypertext* or whatever 1

5 *HL* = 'BAX'

6 As a start out, define *HL* to be a file line (see line 10)

7 message *HL*, message 'Now calling *HL*...' *HL*, message *HL*.

8 Display a message on *HiComm*'s screen 1

9 wait 'login'

10 Wait until *HL* sends the text 'login' 1

11 send 'login'

12 Send the string 'login' to the modem. This is used by 1 2 *HL* system to proceed past the usual log-in screen 1

13 wait 'Welcome!' (Enter 'new' for new user)

14 Wait until asked for the username 1

15 send 'Cll Armitage'

16 Send the string with the name 1

17 wait 'Password'

18 Wait until asked for password 1

19 send 'pwn'

20 Send the password. Note that *HiComm* replaces 1 2 1 with the password defined in the telephone book 1

21 and of log script 1

If you so desire, the script could include instructions to dial the BBS itself. This means your computer could log on to the system, download any mail and upload your messages all before you sleep.

The only problem with such a system is that nothing ever gets entry to start. It's a pity piece of ironies, a misstep right, you might end up telephoning your real door neighbour repeatedly from here every night. Always test your scripts thoroughly, and include lots of error checking to take every possible eventuality into account. ■

NEXT MONTH

Are you sick you are getting the most out of your software? Next time John Armitage will be showing you all the tricks and tips to use with *HiComm*.

GLOSSARY

Alfred The Amiga's standard interprocess communication language.

BBS Bulletin Board System. Usually run from a host computer on a spare line for fun. Most are free to join, and contain a wealth of PC software and messaging facilities.

Modem The hardware needed to connect a computer to a telephone line.

Script A program written in a special language to control an application.

COMMON NCOMM AREXX COMMANDS

ASCIIIN	Send an ASCII (i.e. text) file to the modem. Example: ASCIIIN <i>ram.comms.doc</i>
BEEP	Make a beep noise. Example: BEEP
CAPTURE	Store an ASCII file. Example: CAPTURE 'ram.doc'
DIAL	Call a number stored in <i>HiComm</i> 's telephone book. Example: DIAL 'in'
HANGUP	Hang up the modem, in other words, disconnect. Example: HANGUP
MESSAGE	Display text on <i>HiComm</i> 's screen. Example: MESSAGE 'hello there'
SEND	Send a string to the modem. Example: SEND 'J.Armitage'
WAIT	Wait for a specified string from the host system. Example: WAIT 'username'
QUIT	Exit from <i>HiComm</i> . Example: QUIT

CLUB CALL

Clubs, disk magazines and Public Domain libraries - we've got 'em all. Simply consult these pages for the very best in Amiga activities. Your guide to the action is Steve Pizman.

AMIGA USERS JORDAN

PO Box 2431, Amman, Jordan.

With 107 local members and 37 foreign ones, this Jordanian club helps prove that the Amiga is a hit in the Middle East as well as the rest of the world. Membership of the club has formerly been free of charge, but since publication of its monthly newsletter begins, any time now, an annual fee of \$10-\$15 will probably be charged to cover the cost of postage.

Amiga Users Jordan (AUJ) has a PD library containing more than 300 disks freely available to all members, a software swap scheme in also run for their benefit. The club's members, all of which possess Amigas of their own, range from absolute beginners to professional artists who advise fellow members on how to get the best from their machines. The AUJ is also in the fortunate position of having close links with a local Amiga dealer, and hopes to have an A1200 by the time you read this.

With its main goal being to establish links with Amiga fans around the world, the AUJ will be pleased to hear from you, at the above address.

AMIGAMANIA

88 Blackhill Road, Folsomville, East CT 06188.

With 34 members at present, this home-based club is looking to boost its numbers. Amigamania publishes its own bi-monthly magazine, appropriately entitled Amigamania, which carries at least one computer every issue, and has on special occasions such as Christmas and Easter editions. It subscription to the magazine is included in the club's membership fee (\$10 per annum), but non-members may purchase individual issues for \$3.25 each (including postage and packing).

Amigamania contains news about events in the computer world (shows, and exhibitions, for example), reviews of hard and software (both utility and games), a PD sec-

tion, and cartoons. The magazine also provides free classified ads, competitions in every issue (a list of letters to the 7th International Computer Show was a recent prize), the 'Bargain Basement' section, offering members the opportunity to buy equipment at near cost price, and special offers, such as the chance to save \$20 on Intermac's Videomaster. The co-ordinating feature promises, such as the club's appeal for fans, Super Snake ('Everybody loves him'), and even playful debate - 'Amiga Connect Game was featured recently.

The club has its own PD and

Shareware library, with members receiving discounts on the disks they purchase. In fact, if you join Amigamania and order PD software regularly, a current offer will let you get \$10 worth of PD for just a five. Central Loanware is also available, with 24 hour despatch.

A scanning service is available for members at a rate of about \$1.50 per page, and a digitising service (again for members only) is planned, for which a nominal fee will be charged. The club operates a telephone hotline for its members, providing buying advice and technical help.

The cluster animation, possibly another outing for Super Snake, is said to be a thriller, and may appear in both 1Mb and 2Mb versions. With free advice to members, and a free gift to all new recruits, Amigamania has a lot to offer.

NORWAY MARKED

22 Russell Avenue, Sjøstrand, Hordvik, Hordvik 4410 NOR.

Founded and headed by rapid assembler 'Zani', NMA is a small group of Amiga enthusiasts based in a tiny, quiet area - Norway. The first NMA disk magazine appeared recently, and it certainly has a lot to offer both new and experienced computer users. It does, in fact, have an extensive section specifically for beginners, explaining how to take care of disks, what the CU and hard

GET IN TOUCH

If you want to read your Amiga-oriented magazine into the club's newsletter of that country, send its details to CLUB CALL, C31 Amiga, Cherry Court, 30-32 Farmington Lane, London EC7H 3AU.

Computer groups featured in Club Call receive a free subscription to C31 Amiga.

If you write to any of the groups featured in Club Call, and request a reply, please help them out costs by enclosing a stamped self-addressed envelope for an international reply (unless you can fax your intention clubs).

drives are, and which magazine to buy - models does not hold me from mentioning that CU gets a glowing recommendation!

As well as a couple of tunes, and Amiga news, there are some more exotic features in the mag, like Zani's Desert Island (computer) disks, which range from Offbeat and FI (Grand Prix in Jazz). For more adventurous Amiga addicts, there is a substantial section on programming in machine code (Assembly).

Although membership has been free so far, in future a fee will be charged to cover the cost of the disk mag and that photo are now being sent to members. If you want to join the ranks of NMA, send a cheque or postal order for £2.50, made payable to K. Prap, to the above address.

AMIGATHAN

c/o Nigel Cockburn, c/o Bookroom Group, Reading, Bedford, Shropshire TF9 5AN.

This club's membership has grown slowly but surely to approximately 20 Amiga enthusiasts throughout the UK. Several listings (including its last member in Club Call). The interests of the club range from games to Assembly language programming, and word processing to sound sampling. The group's aims and activities of Shropshire Amiga Link (SAL) where the group's contentment to share its results.

- A 24-hour telephone helpline enables puzzled Amiga devotees to seek help with their computing problems whenever they occur.
- A monthly disk magazine, 'Workup', is produced, at the price of £3 each, including postage and packing. The disks include useful info, like Amiga's tutorials, graphics, and background music.
- Games cheats and solutions are shared: a huge list of cheats has been compiled in conjunction with the Amiga Williams User Group.

Membership of SAL is free, write to the above address for further details.

SUPER SNAKE

The scores year here are taken from one of Amigamania's recent animation disks - The Duke Good Adventures of Super Snake. The machinist snake slithers across a winter wonderland accompanied by catchy Hawaiian music and an impressive variety of sampled voices with that atmospheric recorded-in-your-bedroom feel to them.



1 An excellent short scene type key feature a seasonal animation - Super Snake is not alone.



2 An excellent short scene type key feature a seasonal animation - Super Snake is not alone.



3 Super Snake tries to build a hot summer at his feet, but fails to escape the wintry weather.



4 An even better scene with a lot of the animation recorded in your home.



5 A really nice bit of animation to look at in a - change in a bit from what you'd expect to see.



6 A really nice bit of animation to look at in a - change in a bit from what you'd expect to see.



7 Super Snake! The last frame from Super Snake as an instant animation sequence file.

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[illegible]

BACKCHAT

This is the place where spleens are vented and anxieties exorcised as we present another rag-bag collection of readers' missives from the bulging CU Amiga mailbag. This month's letters are answered by old big Ed himself, Dan Slingsby.

GAME OVER, MAN

Help! I'm in deep trouble. I borrowed a game, Formula One Grand Prix, from my friend and unwittingly wiped over disk two. Do you know if it's possible to buy just one disk instead of the whole game? Please reply as soon as he wants his game back! H. Barnes, Newcastle

By the time you read this, your ammate has probably got you in hospital. If it's any consolation a replacement disk is in the post courtesy of Microspace who have a policy of exchanging corrupted or accidentally wiped disks for a small charge. Ring their Technical Department on 0800 594339 for further details.

POINT TO MAKE

Some of the comments made in CU's Points of View about PQ were a bit silly. I really can't agree with Mr Brownlie's comments that PQ programs are not of high enough quality to be released commercially. This is rubbish! Just take a look at *Accumind*, *Trek Wars*, *WLD*, *D-Cops* (SD C etc) and then tell me that PQ isn't good enough.

Having said that, I do agree that Commodore is a chance for some people to 'take the money and run', as it were. I also agree that most PQ programmers I know can't be bothered releasing their product commercially, and most programs wouldn't survive copyright laws any way. Just look at *MS Copy*, *Free Copy*, *Minicomp* and the numerous graphics and music apps. Most PQ authors just do it to help their fellow Amiga users, e.g. John Yelthorpe's *Mail Checker*. David Watts, London

A warning is that some people still ignore public domain utilities. There's a wealth of great software out there for a fraction of the price of their commercial counterparts. I personally use *MSD* and *D-Copy* just extensively and the office just wouldn't function if it wasn't for *MSD*.

OWN GOAL!

In the December issue of CU Amiga you reviewed a game called *Premier*

manager and we at *Footies of Fantasy* (the development team behind the game) feel that the review did us a great injustice. The reviewer, Steve Prosser, obviously does not like football management games and therefore will never give any such game a fair review. He makes his feelings clear by the statement, 'Premier Manager is very well presented and easy to use, although its nature is not very exciting'. This clearly suggests that football management games are dull regardless of their quality. We feel that our product would have been given a fairer review from Tony Allen who reviewed *Championship Manager* for *Footies* (April '90) and Charles 'Fiction a Doctor' *Challenges* by *Kitsmag* (August '90). From these reviews we know that the appropriate football management games.

Steve Prosser's review was far from comprehensive. It merely stated some of the features from the game, but neglected many others. We have spent eight months hard work developing what we believe to be the most playable football management game available on the Amiga. We would appreciate it if another reviewer could take a look at this game so we feel a product of this complexity cannot be comprehensively reviewed in a quarter of a page, especially by a reviewer who gives the impression that he does not like football management games. Alex Kassin, John Atkinson, Cumbria

While I appreciate your comments, if I'm selecting by Steve's review, I think his comments were valid ones. He's also played every football management game available, so I think he was more than qualified to review the game in the first place. Sorry you don't agree, but the game wasn't mentioned out of context and was merely judged in comparison to other games at the same price. Admittedly, a quarter page for a review is not always most adequate enough, but in the run up to Christmas we always try and come in as many games as possible. If Steve had thought more highly about the game, it would have been given more space. As simple as that, really.

WHICH COMPUTER?

I just on *MSD* at the moment and am thinking of upgrading my machine. However, I am unsure which computer to go for. I don't want to buy a console, so I see my main choices as being the A1200, the CDTV, and Atari's new Falcon.

The obvious choice is the A1200. It has great graphics, a fast processor, and I can play my existing games on it. However, the A3000 has not got an improved sound chip (only five channels is a bit dated by today's standards), and with no high stereo drive there will be a lot of disk changes on practically all games. Although there has been talk of Commodore releasing an extra sound board for the A1200, it is doubtful that many games will use it. Let's face it, everybody's got a money upgrade for their A800 but there aren't many games that use it.

The CDTV would be a great choice for having its disk changed, but then I wouldn't be getting the extra capabilities of the A1200. In my opinion, the CDTV should have been released as an A1200 with a CD drive - that would save every one's problems.

Although the initial software support for the A1200 is very good (enhanced games, etc.), it will still have great games going in full until there are more A1200s than A800s, and that will not happen until Commodore start making the A800. If Commodore want the A800 to actually compete with the console that they need to make it a console so that they can't over the price, and even then the console have got better games available anyway. The CDTV could also take sales of the A1200 which means it could be years before we see any decent stuff on the A1200. Commodore have simply got too many computers on sale at the same price range.

And then there's the Falcon. According to your article in December's issue, the Falcon is clearly a better computer than the A1200 but is far too expensive to compete. Personally, I think *MSD* (that's the price I've been quoted) is not much more expensive than the A1200 considering its extra capabilities, although I have to admit I have not seen it for sale.

I have written to your magazine

because I feel that it is the best sound for the Amiga at the moment. I'm sure that there are many people in the same position as myself, so by helping me I hope you'll be helping others make their decision on which machine to buy. Ian Clements, Birmingham

You don't really expect me to have an unbiased opinion, do you? I literally live and breathe the Amiga day in, day out (when I'm being paid for it, that is). In fact, I've just turned out for an A1200, and very pleased with it I am, too. The CDTV has singularly failed to impress me, mainly because most of the software released for it is far in either Amiga-ports or just plain garbage. Things might change when some of the more interesting products come along, but I think it was poor marketing on Commodore's part to release a machine without the quality software support that such an excellent bit of kit as the CDTV deserved. As for the Atari Falcon, I really doubt if the machine will be a success and almost the kind of software support that it needs to survive. It's still a very good machine, but that doesn't necessarily mean it's going to be a success. For an unbiased opinion on the Falcon, see this month's Points of View.

FIGHTING TALK 1

In this story I think to say this for you were wrong! Or at least it *could* make a bit of it work. In *Street Fighter* (Falcon) did work on the A1200 - but it up and it crashed!

Obviously enough, I was wrong my tips in a *Virgin's* gamesave when I said your magazine with the review in it and to CHASE-LESS, BLATENTLY and AGHASTLY mistake! Forgive me for twiddling all, but I was really looking forward to playing it and had waited to use it!

John Dixon, Bristol

I really cannot apologise enough over this mistake. We had to go up to US-Goal's offices to review *Street Fighter 2* and played it on a high standard A800. When we asked if the game would be avail-

publish with the new \$1200 we were told it would be. You just can't believe anymore these days, can you? If we said these readers who've already written to about this book's considerable budget games, but we've also exhausted our back catalogue of games so we can only offer that small number of examples to any other readers similarly affected.

KEYPAD COCK-UP

After purchasing an Amiga 500 (or 500C2) it should be made clear that Deluxe Paint II will not work some delay because of the risk of a lawsuit and that you will have to just share the upgrade to produce the effects required, which we understand is another SAS.

We have just purchased our 4000B4 with the Epic Pack including Deluxe Paint II which had been recommended to us by a friend who has had an 4000 for over four years. He thinks Deluxe is the best of package for a true user. You can imagine how let down we felt to discover we would have to fork out more money.

We hope you can get Electronic Arts or Commodore to make potential customers aware of this fact and perhaps offer the upgrade for Amiga 500/500C2 customers free of charge. Mr and Mrs Shire, Clifton, Beds.

Electronic Arts have a special list that which gets around the lack of a keypad and lets you unleash the full power of Officer II on the Amiga. To get your free copy telephone their Customer Services Department on 0755 544444.

MAC RIGHT

In response to J. Cattermole and I. Rowland letters (Blackpool, December 92), let me just like to say that the Macintosh is better than both the PC and Amiga any day, and anyone who disagrees is a complete prole. Steve's B&B Lites, Norway.

Mr Potato Head replies: We are Mr Potato in help design and proof CU Amiga's pages. Believe us, no take the much looking Amiga reply.

ANYO ONCE MORE

With regard to the great prize debate that seems to run intermittently in your magazine, I'd like to offer my own personal experience on this matter.

I own an expanded AG60 together with over 50 original games, complete with instructions and colourful films. They scarcely fit in offered a prize copy of *King Of The Zoo* complete with my copy of *Comanche Soldier*. Having played the game I found it actually liked it a lot. I have therefore purchased an

original copy of *Kick Off '93* as well as copies of *Return of the Ninja*, *Winning Tactics*, *Planet Europe*, *Gladiators of Europe* and *Major Manager* (which I find more taxing than *Crash*). *Top Gun* and the prize copy has now become a back-up disc.

Therefore, a prize copy has led to the purchase of no less than 10 titles. In this particular instance a prize copy actually made money for a publisher.

You may wonder this by saying that virtual discs are available to sample games but I instantly felt that despite any offer what the publishers want you to do - when you go out and buy £20 for the full lot. The rest of this game is published.

I do sympathise with the publishers and understand what commercial prying could do to the computer industry, but the publishers must understand that we the gamers playing games will only fork out our hard earned money for games which represent value for money and not a heap of rubbish. They must therefore accept a lot of the blame for the problems that they are trying to sort about. It is also the responsibility of reviewers such as yourselves to offer honest and unbiased reviews on new material.

I hope you'll agree with some of the points I've raised and let your readers have the right to reply. S-C Yates, Blackpool.

My own personal views on piracy are this: I don't support it but I'm very much aware just how extensive it is. I'm also aware that it's one of the main reasons why the Amiga is so popular. After all, it's a hell of a lot more difficult to pirate copyrighted software than it is in the floppy-based counterparts. Unfortunately, the problem of software piracy has already forced a number of companies to stop supporting the Amiga and switch to compete elsewhere. That's a shame, as it's depriving Amiga users of some quality software. The piracy debate is all a bit meaningless though, as in a couple of years time we'll all be using optical discs instead which will prove much more of a challenge to playground pirates.

VIDEO VOTE

In your August 92 issue, there was a section about videos, concerning computer graphics and animation. Amongst the recommended videos was *The Minto Eye* - a computer animation video. I read your review and I instantly wanted the video (BUT) it was only available on order from America. You explained that it would probably appear in the shops as well as in distribution stores even involved with the UK.

As I wanted a copy of the video, but was unsure of ordering from America, I decided to wait a while and see if the video popped up in

any of my local video stores. It never did.

Then, out of the blue, Matthew Jones wrote into your magazine asking how to get hold of a copy and if they did a PAL version. You replied that his best bet was to write to Minto Studios directly.

I took your advice and wrote to them myself. A few weeks later they replied with the necessary ordering details as well as information on a sequel. Beyond Minto Eye, any one of their videos costs £19.95 plus 50p postage and packing. A total cost of £20.45 (as I am a natural mathematician as to what which translates into £19.95 is cheaper than the average price of a new video). I have now both videos. *Beyond The Minto Eye* being the better of the two by far as it also includes the computer animation from *The Lawnmower Man* as an extra bonus.

Robert Jones, North Wales

I love a happy ending...

GETTING HIP

In order to celebrate and promote the introduction of the AGA chipset, Hip Computing is looking for demos to distribute to Amiga dealers across North America.

We are seeking any kind of visual demo, from a HAMM extension to full-blown animation complete with sound track requirements.

- must run on a standard A1200 with a 68040 hard drive
- must mention the Amiga in some way
- should be hard drive installable
- must loop or run continuously
- should be family friendly
- should mention the software used
- must be in the public domain

If you want your demo sent by people across the US and Canada, please send them with your name and address to: An Amiga in Every Home c/o Zoltan Hunt, Rt. 10, Rt. 10, Boston, Ontario, Canada L0G 1A0 Zoltan Hunt, Ontario

DISK DRIVES

I wish you would state in your review whether it built disk game supports extra disk drives. If either sporting things will sound CD or an extra disk drive is find that a number of games don't support external drives. Games are one of the worst for this - both *Just* and *Levi's* I have no support. Come on you software houses, get your act together. S.B. Cheating, Blackpool

Would you believe £71.95 is adding disk drive information to our new look cover boxes from the April issue. Now payless or what?

DEMO DUD

Having witnessed a crowd of youngsters congregating around a Dean's store with a TV running a Steve Nigher II demo on a Super NES, I wondered what influence this has on the buying public. I have a friend who works in this store and he informed me that the SNES sold over 15 units that day compared to just one Amiga. I seems to me that it was the software that was selling the machine and not the add-onware. I want to see what the Amiga was doing and what was being shown the Weekender event. Running out, with funds it would be better for Commodore to produce some spectacular demo from the PO scene which shows off the ability of the machine? It is up to Commodore to produce their products so why don't they try to do it effectively? Stuart Price, Fife

Commodore do supply demo disks with AGA models, if a shop disagrees, well to sue them, it's their loss. Using some of the best PO demos, though, is a satisfying idea and I know of several independent retailers who use them to flag their machines.

GOING FOR A GOLD

I received Jeremy's CU Amiga but my inbox isn't full of readers' letters composed on AMOS (how would you like them taken off your hands)? As both a fan of AMOS and your magazine, I would like the opportunity to set up a 'CU Amiga AMOS Users Club' where people could send their tunes and queries about AMOS and generally get it touch with other music programmers. I started using AMOS in December 1986 with version 2.13 and I am currently using the version given away on Commodore 38, although I am upgrading to 4.02 within the next month. Perhaps after I have informed it all 950 (and the new ones that will hopefully be sent to me) I could submit a couple for possible inclusion in a magazine. I must try and answer any queries which included an SAE as not only have I more than two years experience with AMOS but I've also passed a few music exams in my time.

So, let me know what you think, and hopefully I'll be able to get the club up and running in no time. Richard Brewster, 4 Clervaux Road, Brighton B1, Margaret, Brighton, Wiltshire, MK5 6AP

I'd rather you called the club something different as I really don't read CU's name being used in conjunction with something as lame as control over. Other than that, I think you've got it more or less right, so we've included your address and hope you've got a big response. I've not forwarded our collection of disks as the copyright remains with the original

author and it wouldn't be fair to send you their compositions without their knowledge or agreement.

WISH LIST

I read the 1993 predictions you published in your January issue. I hope a lot of them came to fruition as that would be the best year yet for the Amiga. As the crystal ball gazing has led me to consider my own wish list for this year.

Heath, Commodore should build its higher-end machines, such as the 4800s and 4900s with a decent multikey monitor for around the same price (if possible). I mean, does anybody actually use a 4000 or 5000 with a TV or C200 PDS monitor? I don't think so. People expect PCs to come with monitors and I think the same should be true of the Amiga and Amigas.

The 4800s should also come with a 4000 hard drive instead of 320, and should have a DSP chip and a CD-ROM with the 4800 chips. The 4900 should be upgraded to the A500 chip and come with a DSP and a CD-ROM with the 4800 chips.

Finally, Commodore should produce a 1200 in a 300 style case with a 5400 ECD hard drive, CD-ROM, one disc drive and a 14" RGB monitor and sell it for around 1000. This set up would be very good for games and multimedia applications and would do well against the cheaper PCs.

David Dyball, Exmouth

A lot of the things on your wish list sound a good chance of becoming reality this year. As for Commodore building their high-end machines with a decent multikey monitor, haven't you tried one of the big mail-order companies? Many already build the 4800s and 4900s with just such a monitor, and at a very competitive price.

SLOW DOWN 1

I've had an A500 for almost four years and have been very happy with it. But now I sense a little more power and the new A5000 looks like it could be for the machine I need, the thing is, I'm totally confused by Commodore's marketing policy. It seems as if a month doesn't go by without some kind of announcement of a new machine appearing. In the last year alone we've had the A500, the A570, the A4000 and the A5000. And now we're hearing rumours about an Amiga 600 onwards, the A6000 and a successor to the A586/286. There seems to be the changing so fast that it's almost hard keeping up with it all and buying a machine that will be redundant after five months to a year. Any advice?

Paul Stetler, Essex.

If you think you're confused, what about us? We're constantly hearing rumours about new machines with new specs. Sometimes it's difficult to keep up with it all. I do think Commodore must tread carefully, though, or else there would be the danger of introducing too many models too quickly and alienating a lot of users.

They seem to have introduced a rolling development policy whereby to soon an new model, say it's cheap enough, they'll build it only a new Amiga and wheel it out into the shops. The success of the A500 was built on a first rate machine which changed little over five years. People knew what they were getting and its popularity spread. However, the short lifespan of the 4800s and the virtual replacement of the A500 by the A1200 has confused a lot of prospective new users as well as alienating those people who invested in the new Amiga only to see their discontinued after a few months.

I'm all for change, but continuously updating models is a recipe for disaster. Especially when this happens only a few months after a machine has gone on sale. There's a rumour that the A1200 will gain an A500 processor before long, but this will only serve to alienate those of you who want out and bought the machine as soon as it was released and who will be stuck with the slower 720 processor. Eventually, people will get weary about considering their wish to a new machine and just sit back and watch developments. They might even switch to a rival computer out of sheer frustration.

For the record, the 4800s should be with us shortly. Test models are already with a number of developers, and are prototype versions of the Amiga 500 size. As always, it's unadvised to bring you the latest news as and when we receive it.

SLOW DOWN 2

CU Amiga has certainly gone through some difficult changes recently. I remember when you were just a games mag, how you've got something for everyone, although I'd like to see a 50 more space given to hardware reviews of new machines and add-ons. The "test" for Speed feature was exactly what I was after, as this has more like the pieces.

As for your comments about Steve Friedman's test, do I mean someone that is a pretty top level test. Being a Londoner myself, may I suggest a trip to Har Racing in Windsor might be one way out of his problems. They offer a very good service and a dry hire only costs £4.95. However, looking at his picture, I think he should get up for the more expensive 300 yard riding. Dave Newbold, London.

RUDE DUDE

I was interested to read the letter from Mr Andrews of Manchester in the January issue of CU. He raised some very pertinent points concerning games and scores. I must confess, I play very few games. Chess Challenge and Challenge being the most often used ones, so can see the points he raises from an objective point of view.

This is hardly your viewpoint. I was appalled by the sheer rudeness of the reply to his polite letter. I have read enough reply to nearly the last five years, but if you think readers with valid ideas about such issues are not "real" and "mean" (don't you mean mean?) then I am sure do not wish to read such offensive, arrogant crap. I really think that you ought to apologise to Mr Andrews for such behaviour.

Surely the idea of playing games is to try to better your previous score! If you don't know what that score was, how can you know if you have progressed at all since the last game? If, however, the idea is to complete the game, then it seems only sensible to me to decide to save your position, so that it is possible to restart the game from there if you lose your life.

Don't Cooks, which I haven't played for a long time, and never have completed, shows your position to be saved. I even use you position playing a level before being it for real. Of course, not being a chess-wigger to chess-players might have given me an even simplified view of game playing and Mr General Motors Rogers, Suffolk.

SCORE DRAW

I thought Mr Andrews' CU Amiga, January letters page, recently put forward a valid complaint and one which has probably caused many other frustrated game players' minds of late. Well, to try the worst, a little paper that your response addressed the dilemma centered that the right when to "you appear to deny Mr Andrews the right to offend, while throughout your magazine you continue the right most judiciously."

I could that Mr Andrews is an opponent as to "read his name in light" as you put it. High scores more often than not need a personal touch and rarely shared with others. In total contradiction to this, has anyone beaten 12,350 on Khoros or scored recently by my measure again? I do entirely agree with you that a game is played for the challenge. Why then do you object to increasing the challenge by having a personal test to beat?

Finally, can I ask, are you or any of your readers aware of an ongoing game on the Amiga? My daughter has used up her Spectrum but I can't believe that the market is devoid of one for the Amiga. It isn't that every software company has to have a must-have game that has early sale.

Great news about the perfect Dan. Sorry we all agreed you at the time he submitted the Publisher's. That you will accept to more than the 1% recommended by the Government to us poor old Severn! Geoff Bradbury, Dorset.

We had a lot of letters on this subject last. Mr Andrews' letter, not Dan's pay rate and many people criticised us for the way in which we responded to his comments. We really didn't want to cause his offence. Just after it was left had a particularly hard day and believed that Mr Andrews' letter was a little tongue in cheek. Anyway, we've flushed his head down the toilet and he's promised well to do it again. Still, you've got to admit Mr Andrews' letter was a bit extreme. I play games because I enjoy them, and I'm not worried if there isn't a high score to beat. It's discovering something new about a game that keeps me coming back for more. I remember when the first Space Invaders machines appeared and I just had to better my previous score no matter what, as I'd usually beat my own money at the weekend, but today's games offer much more of a challenge and just reaching the new score is usually enough for me. And an anything other than a new score is a bit redundant anyway. And just to prove that somebody agrees with us, here's a letter by support.

HE CANNOT BE SERIOUS

I cannot believe that Mr Andrews is being serious. To want to pay 140 for a game such as Planet Storm suggests the mind to begin with, but when he starts on about the simplicity of the drive software industry one really starts to doubt his sanity. Does he really think that such a small part of a game is the high score table will affect the playability of the game and reduce it to nothing? Of course, I hope it's a little bit of a joke. I'm not sure I understand the complexity of a high score table or something game.

The point is to complete a game. Surely we've progressed from the earliest games of yesterday where the only indication of how one had progressed was the score. Nowadays, with more levels, and more modes and other such things there is more of an incentive to continue. My point may have been more valid on previous machines - I can remember battling through Commando on my 4800, only to find I had to beat it to have a new score to show off to the Amiga. I'm sure people get more pleasure and satisfaction out of beating an old record, or even just that they're not making up the points.

T.J.G. Whitley, Leamington Spa

VIEW FROM OVER THE WALL

What do you get if you cross the marketing expertise of Commodore with the technical expertise of Atari? Vic Lennard doesn't know, but he'd like to find out.

ST USER

OK, I admit it, I use an Atari ST and have done since 1986. As you Amiga users, which I assume you must be if you're reading this, you may be wondering why I make that choice and, more to the point, why I'm writing about it in *CQ*, *Amiga*!

My main reason for leaving the ST was to run MIDI music software. Back in 1986, there were three or four "professional" products available for the ST in this area and none at all for the Amiga, a situation which really didn't change for some years, due in no small part to the stressless nature of the principal music program, *Musica*. As a professional musician the ST became central to my needs, especially as it had replaced first an Amstrad CPC 6128, and then a Commodore 64. The following couple of years saw me progressing down the path of freelance technical music journalism, using *First Word* Plus on the ST, which has culminated in my current position after some 260 published articles—editor of your sister magazine, *Atari ST Review*.

The emergence of the ST sent a shiver down the spine of most computer manufacturers. The battle cry of power without the price rang out from the hills, and the ST saw off many competitors, mainly due to the wealth of software support. Perhaps it was intended to be a super games machine, but the plethora of serious programs in the art, desktop publishing and, particularly, the music domain led to a total lack of support for the machine.

There's little doubt that the ST has overimposed its endurance and should have been substantially upgraded some years ago; the STE simply increased the colour palette and added stereo sound. When the specifications for the Falcon were released via Usernet, the US bulletin board, in February 1990 a similar shiver went around the industry. Could any manufacturer really pack such a quantity of impressive hardware into a budget computer?

BUDGET HARDWARE

Well, yes they can, and the potential of the Falcon is highlighting, especially when compared with its closest competitor, the Amiga 1200 which has, quite honestly, an appalling specification for a computer entering the current market place. What on earth were Commodore thinking of when they decided to use a 68000 micro-processor when the 68020 has become the bare minimum for a computer of any use these days, and then run it at a clock speed of just over 14 MHz? Where's the high density disk drive? Why is the internal hard limit to a maximum of only 540K? Why have they only used 1-bit digital to audio converters for audio playback and given you only four channels? Where's the SCSI port for fast hard drive data transfer? Why are there no built-in MIDI ports? Most importantly, why didn't Commodore include a Digital Signal Processor (DSP)?

The other point highlights the most important omission. What's a DSP? A processor which specialises in handling digital signals, be they digitised audio or video. For instance, a computer with a DSP is capable of creating real time audio effects,

such as reverb and pitch shifting; it can be used to record digital audio direct to hard disk and can even make such a computer function as a hardmaster without any additional hardware. High-speed 3-D graphics and animations are other possibilities.

POINT FOR POINT

Why have the above features been omitted? Simple, the Falcon has all of them. In fact, the only area in which the Amiga 1200 surpasses the Falcon is in its higher resolution display due to the custom graphics chip; some 280,000 colours can be displayed on-screen from a palette of 14.7 million colours. However, changing from one colour to another is slow, which means that the extra resolution and increased number of colours is of limited use. If you're an Amiga owner, I would feel severely dissatisfied that the manufacturer's support has not had the forethought to use the latest technology in the machine I wish to upgrade to. My personal opinion is that Commodore is leaning in on its name and so giving its users a raw deal.

There's a little doubt that Apple's policy of returning special discounts to purchase *Macworld* (bloody cheek...) and corporate bodies and passing them onto the general public in the form of price cuts across the board has resulted in a phenomenal increase in Macintosh computer sales. There is also little doubt that the latest version of Windows and the low price of 386 and 486-based PCs has caused many people to take that particular path. Can the Amiga 1200 emulate either of these? Possibly, but certainly not as easily as the Falcon with its dedicated internal bus expansion slot, which is designed to accept a dedicated processor.

Where the PC is accepted, the limited multitasking capability of Windows is possibly providing some Amiga owners with switching to that platform. The real future will bring Windows NT (New Technology), a pre-emptive multitasking system which uses the 32-bit capability of 386-based PCs and above. Bearing in mind that no additional hardware will be needed and that the cost of Windows NT will be low to encourage users to switch to it, one can only hope that Commodore will be prepared to release a machine with sufficient power at the right price...

THE POINT

Now here's the rub. It's clear that the Falcon is superior to the Amiga in practically every respect and utilises the latest technology in many areas. It was also announced first and clearly it is believed that it would appear in the marketplace months before the A1200 and its 60 the latest impressive damage sales wise. What happened? Courtesy of Atari Corporation, the Falcon had more than started than a dual supplier, while the A1200 quickly appeared in December of last year and sold some 50,000 odd units in the UK prior to Christmas. Perhaps the mask shall inherit the earth—but only if the marketing departments of the powerful score up in a big way!

All I can say is that I wish there was a company bound with the technical expertise of the Falcon team and the marketing effectiveness of Commodore. Then again, many would argue that this particular hat fits snugly on the head of Apple... (we'll be continuing the debate on the relevant merits of the Amiga and Atari Falcon in an upcoming issue—Ed.)

He's Commodore's first editor of Atari ST Review, and Director of the online Kingdom Hold distribution (KMH). He has been, the last time he wrote, in being published at this time in Britain.



Don't you think these images speak for themselves !



Jason Holburn, Amiga Format
December 1992 issue.

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Alan Pacey, Amiga User Int.
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